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ORIGINAL
(Red)

R-585-4-9-16

SITE INSPECTION OF
WASHINGTON PLATING
PREPARED UNDER

TDD NO. F3-8810-15
EPA NO. DC-007
CONTRACT NO. 68-01-7346

FOR THE

HAZARDOUS SITE CONTROL DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

SEPTEMBER 13, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY

(b) (4)

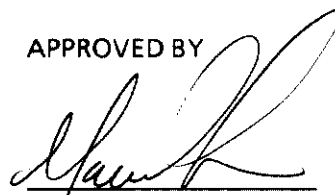
PROJECT MANAGER

REVIEWED BY

(b) (4)

SECTION SUPERVISOR

APPROVED BY



GARTH GLENN
REGIONAL OPERATIONS
MANAGER, FIT 3

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|---|----------------------|

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SECTION 1

1.0 INTRODUCTION

1.1 Authorization

NUS Corporation performed this work under Environmental Protection Agency Contract No. 68-01-7346. This specific report was prepared in accordance with Technical Directive Document No. F3-8810-15 for the Washington Plating site, located in Washington, D.C.

1.2 Scope of Work

NUS FIT 3 was tasked to conduct a site inspection of the subject site.

1.3 Summary

The Washington Plating site, located in Washington, D.C., is an inactive, one-acre electroplating facility where automobile bumpers were straightened and refinished. Operations at the site began in 1973 and ended in January 1987.

The nickel and chromium electroplating process utilized 12 tanks with various solutions. Effluent from four rinse tanks was drained into the city sewage system. In 1986, blockage in the sewer line that is under the alley and behind the electroplating room caused rinse effluent to overflow from a manhole. The effluent flowed along the alley, behind neighboring backyards, and ultimately into a storm drain on the corner of 13th Street and V Street. Officials from the District of Columbia Department of Commerce and Regulatory Affairs witnessed one overflow incident on March 10, 1986. Complaints had been filed by a resident on V Street on previous occasions during the preceding months, but no evidence of effluent in the alleys was seen during follow-up investigations.

The rinse tanks were used after the bumpers were dipped into either a nickel- or chromium-plating tank. The tanks were drained approximately two to three times each day.

According to Milan Milosevic, the manager of the facility, no other solutions were drained into the sewer from the plating room. A strip tank using caustic soda with a reverse current was used to strip the bumpers in the straightening room. This tank was drained into the sewer system once every couple of years. It was last drained in February 1986, prior to the relocation of the entire operation. The operation moved to 2215 Adams Place Northeast in Washington, D.C.

Site Name: Washington Plating
TDD No.: F3-8810-15

All residents within the site area obtain their drinking water from public sources. The nearest public source is located over 13 miles away. The nearest residence is located 20 feet from the site.

NUS FIT 3 conducted a site inspection on December 6, 1988. Activities included sampling on-site surface water and sediment and off-site soils. The results of sampling, as shown in section 7.0 and discussed in section 8.0, have revealed elevated levels of heavy metals including lead, chromium, and polyaromatic hydrocarbons (PAHs) in on-site sediment samples.

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SECTION 2

2.0 THE SITE

2.1 Location

The site is located in the northwestern section of Washington, D.C., along 14th Street (see figure 2.1, page 2-2). The site can be located on the United States Geological Survey (U.S.G.S.) Washington West, D.C. - Maryland - Virginia 7.5 minute series quadrangle map at north 38° 55' 04" latitude and west 77° 01' 52" longitude, or 7-7/8 inches north and 4-1/2 inches west of the southeastern corner of the map.¹

2.2 Site Layout

The site is approximately one acre in size. It slopes gradually (less than one percent) toward the southeast. The site, which is divided by two alleys, supports three buildings. The site lies on the eastern side of the 2100 block of 14th Street and is bounded by alleys to the north, east, and south. Fourteenth Street runs north-south (see figure 2.2, page 2-3).^{1,2}

Between 14th Street and the western alley is a building measuring approximately 135 by 50 feet. This was the old plating room. Its street address is 2109 14th Street. This building consists of a single open room with a three-foot-high platform along the north wall. A single drain is located in the center of the floor. This drain leads to the sewer. Beneath the platform is a basement measuring approximately 65 by 10 feet. At the time of the site visit, the basement was flooded with approximately four feet of water.^{2,3}

Across the western alley and west of the eastern alley are two other, larger facility buildings. Both buildings measure approximately 256 by 56 feet and run east-west. They are separated by a center alley that is approximately 20 feet wide. The northern building, which is bounded to the north by the northern alley, was the old straightening and finishing building. This building is currently empty. The southern building, which is bounded to the south by the southern alley, was the old bumper storage building. This building was damaged from a fire that occurred in 1988. This building is currently used for truck storage.^{2,4}



SOURCE: (7.5 MINUTE SERIES) USGS WASHINGTON WEST, D.C. - MD. - VA. QUAD.

SITE LOCATION MAP

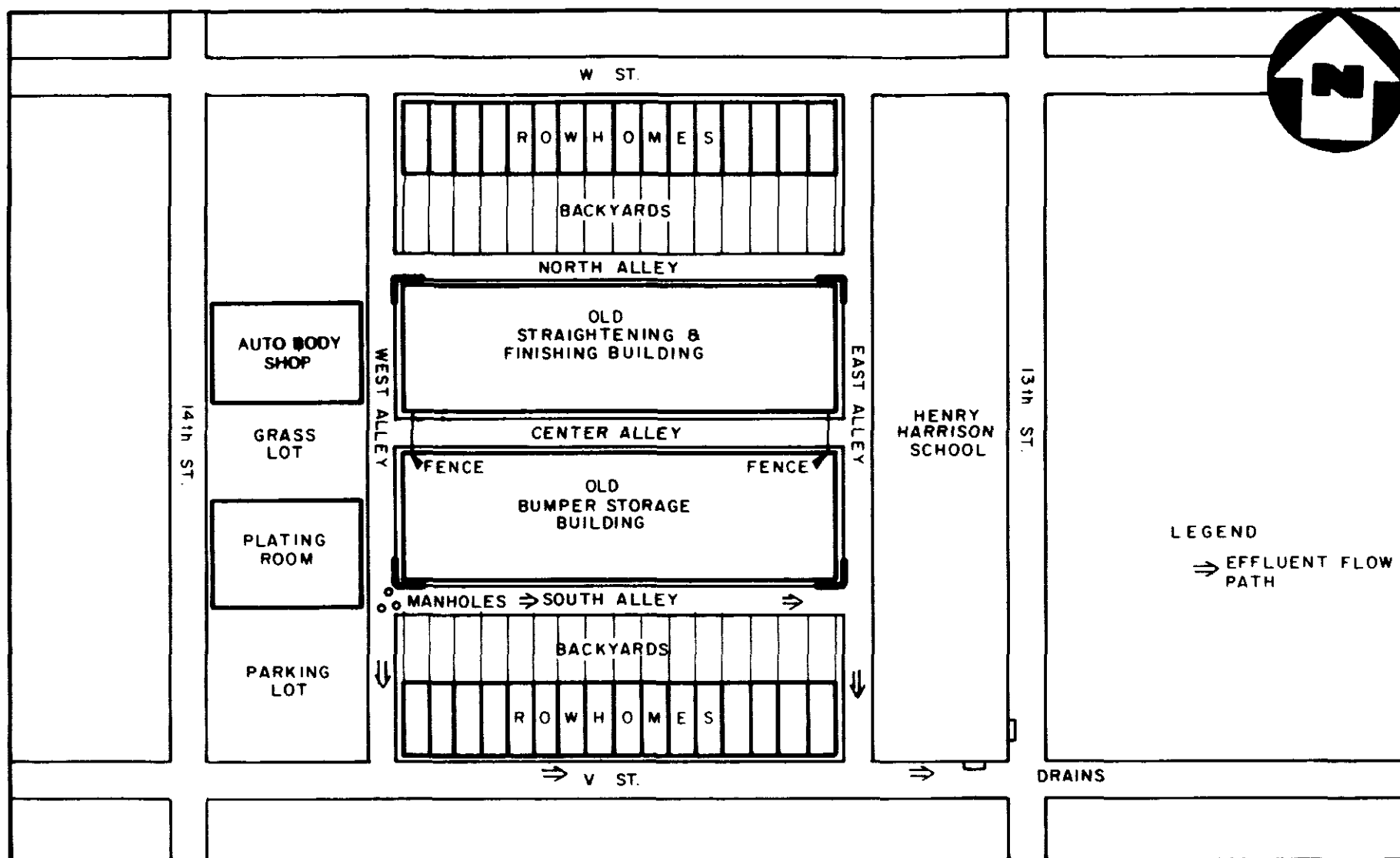
WASHINGTON PLATING CO., WASHINGTON, D.C.

SCALE 1:24000

FIGURE 2.1

NUS
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H A Halliburton Company



SITE SKETCH

WASHINGTON PLATING CO., WASHINGTON, D.C.
(NO SCALE)

FIGURE 2.2

A sewage line runs along the western alley behind the plating room to the main under V Street. Southeast of the plating room are three manholes that lead to the sewer line.^{2,3}

South of the southern alley and north of the northern alley are row homes. They front on V and W Streets, respectively. The Henry Harrison School is located immediately east of the eastern alley, fronting on 13th Street. South of the plating room is a parking lot. North of the plating room are a grass lot and an auto body shop.^{1,2}

2.3 Ownership History

George Galich has owned and operated the facility since February 1973. The property had been owned by a laundry and dry cleaning company since 1938.^{5,6}

2.4 Site Use History

George Galich has operated an automobile bumper straightening and replating company since 1973. In January 1986, he moved his straightening and finishing operations to a location in northwest Washington, D.C. The electroplating operations continued at the site until January 1987, when they were also moved to the new location.^{3,5}

The sewer system was used on a daily basis for the direct discharge of rinse water. The four rinse tanks were drained two to three times a day. No pretreatment was performed by the Washington Plating Company. At the time of the FIT 3 preliminary assessment, it was discovered that the sewer connection from the plating room to the sewer line under the alley was blocked. According to Mr. Milosevic, this blockage occurred in September or October 1986. Therefore, during the last two to three months of operations in the plating room, the rinse water had flooded the basement.³

2.5 Permit and Regulatory Action History

The facility obtained a waste discharge permit from the Department of Public Works for the discharge of its wastewater into the sewer system. Mr. Milosevic tested the effluent in order to file a baseline report with EPA in October 1985. Alex Slinsky, of the Water Management Division, Water Permits Branch, District of Columbia, Maryland, and Virginia section of EPA Region 3, received the report. Mr. Slinsky reported to District of Columbia's Department of Consumer and Regulatory Affairs that Washington Plating Company was within acceptable limits for the categorical limits of pretreatment standards for electroplaters, as set forth in the Federal Register.⁷

In February 1986, the District of Columbia Department of Consumer and Regulatory Affairs received a complaint from a resident on V Street. The report was that a greenish liquid was flowing down a back alley from the Washington Plating Company. The situation was inspected the same day by Byron Bacon, of the department's Waste Management Branch, but no effluent was observed. The report occurred during a period of heavy rain. Subsequently, the government of the District of Columbia sampled soil and liquids in and around the site (see appendix C).

The same resident filed another complaint in March 1986. When Mr. Bacon arrived, the Hazardous Materials Team of the District of Columbia police and fire departments were already at the scene. The Hazardous Materials Team identified the effluent as nickel sulfite. Two samples were taken from puddles in the alley. Mr. Milosevic indicated that, because of a blocked sewer line, the effluent overflowed from a manhole in the alley. The blocked sewer was referred to the Department of Public Works. Subsequently, the government of the District of Columbia sampled soils around the plating facility (see appendix C).⁷

2.6 Remedial Action to Date

In January 1987, the electroplating process and all the supplies and equipment were moved to a new location. No other remedial action has taken place to date.³

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SECTION 3

3.0 ENVIRONMENTAL SETTING

3.1 Water Supply

All residents within the three-mile-radius study area surrounding the Washington Plating site utilize public supplies to obtain potable drinking water.

The Washington Suburban Sanitary Authority (WSSA) distributes water to the District of Columbia, as well as to surrounding suburbs in Maryland. WSSA obtains its reserves from (b) (9) intakes. The (b) (9) 6 11,12

A small portion of Arlington County, Virginia lies in the southwestern portion of the study area. This area is serviced by the Fairfax County Water Authority (FCWA), which also obtains its water from a surface water intake. This intake is (b) (9) (b) (9) The water volume contributed by these wells constitutes less than 0.5 percent of the total supply obtained from the surface intake. These wells, located outside the 3-mile radius, are drilled to various depths, ranging between 300 and 500 feet beneath the surface, and tap either the Coastal Plain deposits or the Wissahickon Formation. No known privately owned domestic groundwater wells are currently used to obtain potable supplies. However, the average depth of wells across the study area is 123 feet.^{12,13,14}

3.2 Surface Waters

The storm drainage inlet that collects runoff from the site is located on the corner of 13th Street and V Street. The storm drainage system is a combined system with the municipal sewage system. The drainage is treated before discharging into the Potomac River.^{9,10}

The Department of Public Works operates an extensive sewage treatment plant along the Potomac River. The water intake for the Washington Suburban Sanitary Commission is where Interstate 70 meets the Potomac, upstream and outside the three-mile radius of the study area.¹⁰

The McMillan Reservoir is located 3/4 mile northeast of the site. The Potomac River is approximately 2-1/2 miles south-southwest of the site. The river is used for recreational purposes, mainly for an access waterway to the Chesapeake Bay. Rock Creek is approximately one mile west of the site.¹

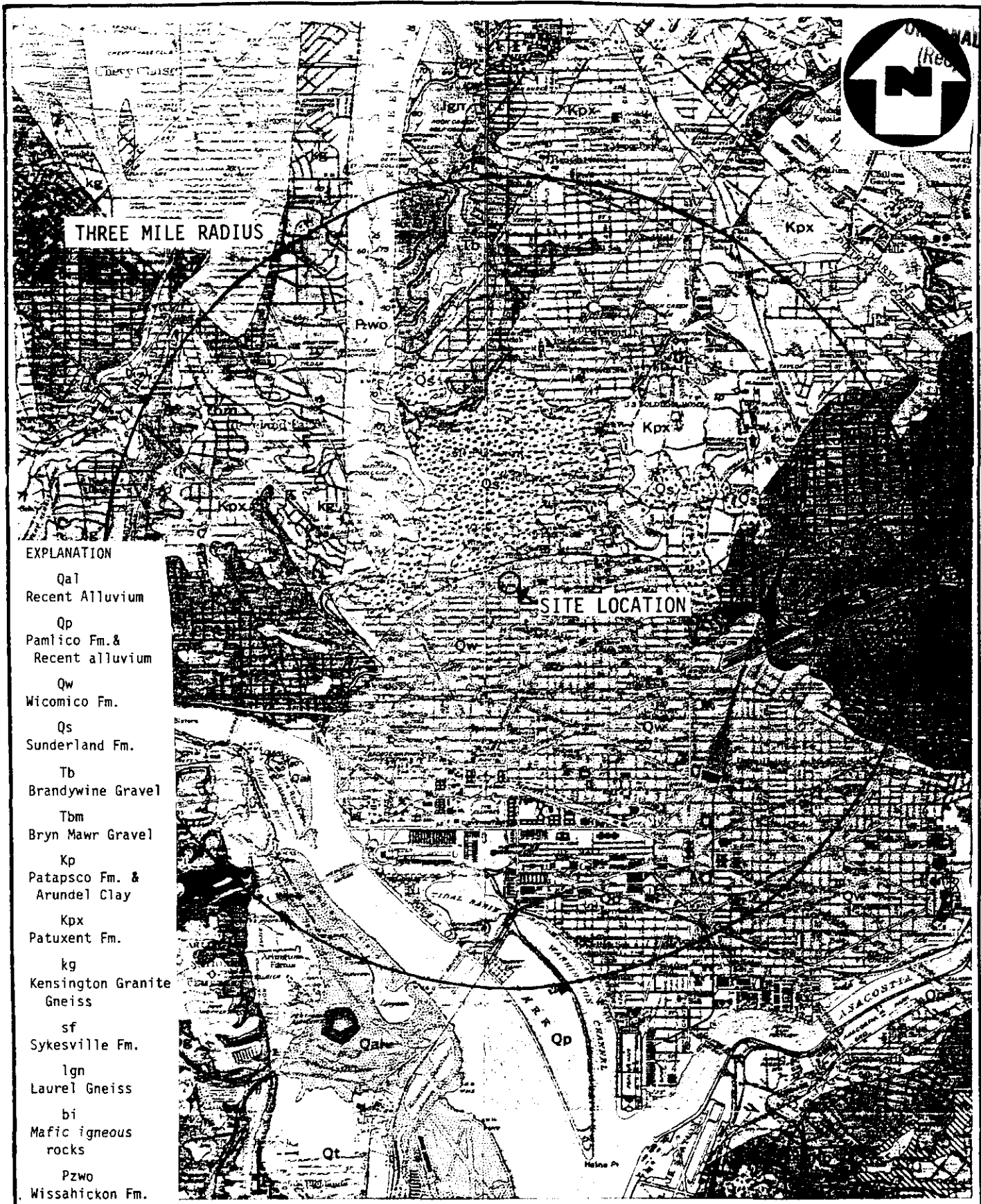
3.3 Hydrogeology

The geologic and hydrogeologic conditions in the study area were researched as part of the site inspection. A preliminary literature review was conducted to determine surface and subsurface geologic conditions, soil character, and the status of groundwater transport and storage.

3.3.1 Geology

The Washington Plating site lies on the Fall Line, the boundary separating the Piedmont Physiographic Province to the northwest from the Coastal Plain Physiographic Province to the southeast. The Piedmont, which is typically composed of hard igneous and metamorphic rocks, underlies and forms the basement complex for the Coastal Plain sediments east of the Fall Line. The major structural feature of the Piedmont region is the schistosity that is commonly present in subsurface lithologies and sub-parallel the regional northeast-southwestwardly trend. No additional structural features such as folding and/or faulting are present within the study area. The unconsolidated sediments of the Coastal Plain form a wedge that gently dips and thickens to the southeast. The ages of the Coastal Plain sediments range from the Cretaceous at the base upward through the Quaternary. The Washington area displays an undulating topography with moderate relief. Elevations across the study area range from sea level to approximately 400 feet above sea level.¹⁵

The site is underlain by the Quaternary age Wicomico Formation, consisting of an unconsolidated coarse gravel basal bed, with finer sand and yellow to white silt above. Local deposits of carbonaceous clay that contains woody debris are also present (see figure 3.1, page 3-3). The stratigraphic thickness of the Wicomico rarely exceeds 30 feet.¹⁵




Source: Geology and Ground-Water Resources of Washington, D.C., and Vicinity

FIGURE 3-1

GEOLOGICAL MAP
WASHINGTON PLATING
WASHINGTON, D.C.

Scale 1:62,500

NUS
CORPORATION

 A Halliburton Company

Original
Hand

Several other Quaternary age formations are exposed across the study area. The lowermost Quaternary age Sunderland Formation, consisting of orange-red to pink, yellow, and blue-gray coarse gravel, cross-bedded sand, silt, and clay, is exposed approximately 0.25 mile north of the site. The overlying Pamlico Formation, having a completely fluvial history, is exposed along the Potomac and Anacostia Rivers to the south. The Pamlico is composed of a mixture of gravel, sand, and silt-sized materials. Recent alluvial deposits of clay, sand, and gravel are present in the southwestern portion of the study area along the Potomac River. These alluvial deposits are generally only a few feet thick but may exceed 20 feet in some locales.¹⁵

Scattered outcrops of the Tertiary age Bryn Mawr and Brandywine gravel deposits are present in the northern part of the study area. The Bryn Mawr gravel caps isolated hilltops and consists of coarse, poorly sorted pebbles in a red sand and silt matrix. The Brandywine gravel is pink or yellow and is composed of well-rounded, polished pebbles of quartzite, sandstone, and chert mixed with fairly clean quartz sand.¹⁵

The Cretaceous age Patapsco, Arundel, and Patuxent Formations, members of the Potomac Group, underlie the Tertiary sediments and overlie the Piedmont basement rocks. The upper Patapsco Formation consists of a basal maroon clay-rich layer that grades upward into a light-colored sandy zone. The total thickness of the Patapsco ranges between 200 and 500 feet. The Arundel Formation, underlying the Patapsco Formation, is a dark, tough clay that contains vast quantities of iron carbonate nodules and highly carbonaceous, lignitized tree trunks. The total thickness of the Arundel may exceed 200 feet. The Patuxent Formation, with a stratigraphic thickness between 140 and 300 feet, contains large percentages of sand that is commonly mixed with variable amounts of kaolin, mica, gravel, and lenses of variably colored or white, massive clay.^{15,16}

The oligoclase-mica facies of the lower Paleozoic age Wissahickon Formation is present in the northwestern part of the study area and is a garnet-rich quartz-muscovite schist of variable composition. The Wissahickon Formation has been intruded and altered by a number of igneous intrusives. The Kensington Granite Gneiss, Sykesville Formation, and Laurel Gneiss are granitic intrusives that have a schistose fabric, with many inclusions. The mafic igneous rocks that are encountered consist of tonalite, metadiorite, gabbro, amphibolite, and undifferentiated mafic rocks. The depth to this unit beneath the site is currently unknown.¹⁵

Because the entire site has been either paved or obstructed with buildings or other structures, the above information could not be confirmed during field operations. No lithologic exposures revealing bed orientation, presence of geologic contacts, or depth to bedrock were encountered.²

3.3.2 Soils

Although soil maps for the site and study area are unavailable, it is considered, based upon the location of the site in a highly urbanized area, that the mapped materials are probably regarded as Urban lands. Nearly all of the site is either covered with pavement or building structures. In several unpaved areas adjacent to the site, a dark brown, sandy loam soil was encountered at the surface. This material is probably a component of Urban land.²

3.3.3 Groundwater

Although essentially the entire population obtains potable water from public supplies derived from surface water sources, a fairly good potential does exist for retrieval from groundwater origins.

In the crystalline rocks of the Piedmont Province, groundwater is stored and transmitted principally along fractures, joints, cleavage planes, and bedding-plane separations and is controlled by the rock structure. In the unconsolidated sediments of the Coastal Plain, groundwater movement is through primary or intergranular porosity.¹⁵

The Quaternary and Tertiary age sediments yield relatively small supplies of groundwater to shallow wells. The Cretaceous age Patapsco and Patuxent Formations are generally the most productive water-bearing formations in the Washington area. Yields obtained from the Patuxent range from 10 to 300 gallons per minute (gpm) and average 80 gpm. Wells tapping the Wissahickon Formation have the greatest average yield for any of the Piedmont Formations, with yields ranging from 0.2 to 110 gpm. The wells supplying these yields are typically drilled to depths between 21 to 825 feet beneath the surface. The average depth of wells across the study area is 124 feet, while the average yield is 13 gpm. Wells in formational contact have the highest yields, ranging from 5 to 40 gpm and averaging 16 gpm.¹⁵

Generally, the water-table elevation reflects the local topography. Specific depths to the water table are unknown for wells within the study area. Groundwater movement is downward and laterally toward lower altitudes, eventually returning to the land surface through springs or wells. Recharge is accomplished through precipitation and local bodies of surface water. Groundwater in the Piedmont is typically considered to be unconfined or under water-table conditions, while groundwater in the Coastal Plain sediments is encountered under both unconfined and confined, or artesian, conditions. The direction of groundwater flow beneath the site is expected to be to the south, toward the Potomac River.¹⁵

3.4 Climate and Meteorology

The average temperature for Laurel, Maryland which is 14.5 miles northeast of the site, is 55.9°F. The average temperatures range from 33.4°F in January to 77.2°F in July. The average annual precipitation is 41.96 inches. The mean annual lake evaporation is approximately 36.5 inches. The net precipitation is approximately 5.46 inches. A 1-year, 24-hour rainfall will provide approximately 2.5 inches.^{17,18,19}

3.5 Land Use

The site lies within the District of Columbia, an urban area. Immediately surrounding the site, land use is residential and commercial. The White House, the United States Capitol, and most of the surrounding federal buildings lie one to three miles south of the site. Numerous public attractions, such as the Smithsonian Institute, the Lincoln Memorial, and the Washington Monument also lie within the three-mile radius of the site. The Henry Harrison Elementary School is immediately east of the site.^{1,2}

3.6 Population Distribution

Approximately 125,000 people live within a 3-mile radius of the site. Approximately 56,340 people live within a 2-mile radius. Approximately 12,520 people live within a 1-mile radius of the site. The estimated number of persons living within a three-mile radius was obtained by estimating the area percentage of the one-, two-, and three-mile radii within the District of Columbia. The population for the District of Columbia was obtained from the 1980 Census Bureau data.^{1,20}

3.7 Critical Environments

One federally listed threatened crustacean is known to occur approximately 1.1 miles from the site in Rock Creek. It is the Hay's Spring amphipod (Stygobromus hayi). No critical habitats are located within the site area.²¹

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SECTION 4

4.0 WASTE TYPES AND QUANTITIES

The only wastes known to be on site are located in the flood water and sediment in the basement of the old plating room. Analyses of samples taken from the basement on December 6, 1988 by NUS FIT 3 revealed the presence of heavy metals including lead (8,070 mg/kg), nickel (1,810 mg/kg), and zinc (14,500 mg/kg), as well as semivolatiles and pesticides. All other tanks and drums of chemicals and wastes that were used and generated on site have been moved to the new facility location at 2215 Adams Place Northeast, Washington, D.C.²

The first two tanks used in the electroplating process were tanks of hot caustic soda and acid used to clean the bumpers prior to plating. The nickel-plating tanks used a solution of nickel sulfate, nickel chloride, and boric acid. The two 1,500-gallon nickel-plating tanks were heated to 145°F. According to the Baseline Report submitted to EPA, 12 drums of nickel sulfate and 2 drums of nickel chloride were used, processed, or stored per year on the premises. The chromium-plating process used a 600-gallon tank of chromic acid heated to 110°F. The chromic acid was purchased in 5-gallon fiber drums with approximately 200 pounds on the premises at a time.^{3,23}

Rinse tanks were located after each of the nickel, chromium, and caustic soda tanks. Two of the 3 rinse tanks were 800 gallons and the other was 600 gallons. The tanks were drained into the public sewer system two to three times each day through the center floor drain. The center floor drain also collected any spills that occurred when bumpers were being moved from one tank to the next. According to the Baseline Report, a total of 5 gpm or 2,400 gallons per day of rinse water were drained into the public sewer system.^{3,22}

Results from the initial samples obtained during the March 1986 overflow incident show high levels of total chromium and total nickel. Total chromium levels of 70,600 ug/l and 78,300 ug/l were detected in samples from the alley behind the plating building and in the alley behind Henry Harrison School, respectively. Total nickel levels of 180,000 ug/l and 105,000 ug/l were detected, respectively, in the same locations. These samples were aqueous effluent samples from puddles in the alleys after the overflow incident occurred.^{3,23}

SECTION 5

5.0 FIELD TRIP REPORT

5.1 Summary

On Thursday, December 6, 1988, FIT 3 members Elizabeth Coughlin, Thomas Bachovchin, Robert Chappell, Scott Coslett, and Michael McCarthy visited the Washington Plating site in Washington, D.C. FIT 3 met with George Galich and Jose Flores, of Washington Plating. Weather conditions during the site visit were sunny, with temperatures in the mid-50s.

One aqueous and one sediment sample were obtained on site (see figure 5.1, page 5-4). Five off-site soil samples were obtained. No split samples were requested. Photographs were taken on site (see figure 5.2, page 5-6, and the photograph log, section 5.5).

Deviations from the Sampling Plan

- There were no deviations from the sampling plan.

5.2 Persons Contacted

5.2.1 Prior to Field Trip

George Galich
President
Washington Plating Company
2215 Adams Place Northeast
Washington, DC 10018
(202) 636-8715

Byron Bacon
Department of Consumer and Regulatory Affairs
613 G Street Northwest
Washington, DC 20004
(202) 783-3193

Milan Milosevic
Manager
Washington Plating Company
2215 Adams Place Northeast
Washington, DC 10018
(202) 636-8715

James McCreary
Site Investigation Officer
U.S. EPA
841 Chestnut Building
Ninth and Chestnut Street
Philadelphia, PA 19107
(215) 597-1105

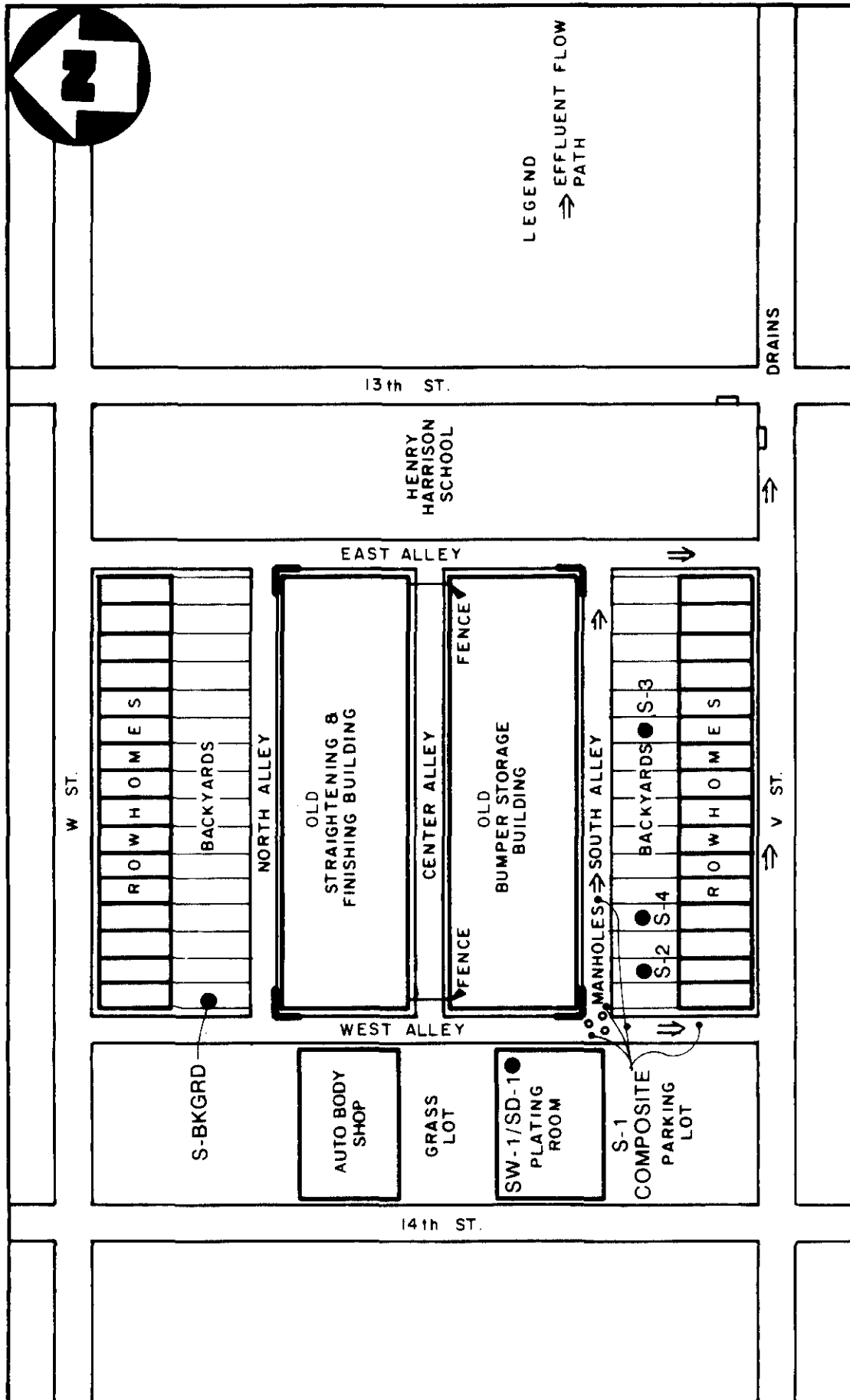


FIGURE 5.1

SAMPLE LOCATION MAP

WASHINGTON PLATING CO., WASHINGTON, D.C.

(NO SCALE)

11/16/07

5.2.2 At the Site

George Galich
President
2215 Adams Place Northeast
Washington, DC 10018
(202) 636-8715

Jose Flores
Employee
Washington Plating Company
2215 Adams Place Northeast
Washington, DC 10018
(202) 636-8715

5.2.3 Post Site Visit

Milan Milosevic
Manager
Washington Plating Company
2215 Adams Place Northeast
Washington, DC 10018
(202) 636-8715

James McCreary
Site Investigation Officer
U.S. EPA
841 Chestnut Building
Ninth and Chestnut Streets
Philadelphia, PA 19107
(215) 597-1105

5.2.4 Water Supply Well Information

There are no know home wells within three miles of the site.

TDD NUMBER F3-8810-15
 EPA NUMBER DC - C07

5.3 SAMPLE LOG

SITE NAME WASHINGTON PLATING

| TRAFFIC REPORTS | | | SAMPLE IDENTIFIER | PHASE | SAMPLE DESCRIPTION | SAMPLE LOCATION | TARGET USE | pH | FIELD MEASUREMENTS |
|-----------------|------------|---------------------|-------------------|-------|--|-----------------|--|------|--|
| Organic | Inorganic | HEXAVALENT CHROMIUM | | | | | | | |
| CY C69 | MCY C69 | 4320-C-1 | S-1 | SOL | off site surface dirt, composition: sand and dirt, glass, and pebbles | (b) (6) | ACCESSABLE TO THE PUBLIC | | |
| CY C70 | MCY C69 | 4320-C-2 | S-2 | SOL | off site surface soil dark loamy soil | | ACCESSABLE TO THE PUBLIC | | |
| CY C71 | MCY C70 | 4320-C-3 | S-3 | SOL | off site surface soil dark rich brown loamy soil | | ACCESSABLE TO THE RESIDENTS OF 1331 V STREET | | |
| CY C72 | MCY C71 | 4320-C-4 | S-4 | SOL | off site surface soil dark brown loamy soil | | ACCESSABLE TO THE RESIDENTS OF 1343 V STREET | | |
| CY C73 | MCY C72 | 4320-C-5 | S-5d | SOL | Duplicate of S-1 | | Duplicate of S-1 | | |
| CY C74 | MCY C73 | 4320-C-6 | S-BACK | SOL | off site BACKGROUND surface soil dark brown loamy soil with sand and gravel chips and sand | | ACCESSABLE TO THE PUBLIC | | HIGH BACKGROUND READING WAS 0.2 ppm, THE REACTION TIME - AHEAD WAS SET AT X1, NO READING ABOVE BACKGROUND. |
| CY C74 | MCY C74 | 4320-C-7 | S-1 | SOL | ON SITE SEDIMENT SANDY BLACK SOIL WITH CARBON. | | ACCESS RESTRICTED | | |
| CY C75 | MCY C75 | N/A | SUB-1 | AQ | ON SITE SURFACE WATER CLEAR | | ACCESS RESTRICTED | 6.33 | 183.3 |
| CY C77 | MCY C76 | N/A | A1 BLANK | AQ | BLANK | BLANK | BLANK | | |

TDD NUMBER F3-8810-15
EPA NUMBER DC - 007

5.3 SAMPLE LOG

SITE NAME WASHINGTON PLATING

[illegible]

5.4 Site Observations

- The HNU background reading was 0.1 ppm. No readings above background were recorded.
- The radiation mini-alert was set at the X1 position. No readings above background were recorded.
- The water in the flooded basement of the plating building was approximately four feet deep. The basement was approximately 65 feet long and 10 feet wide.
- No stains were observed in either the alley or the soils in neighboring backyards.
- All buildings were locked at the time of the FIT visit.
- The center alley was fenced.
- No drums were found on site.

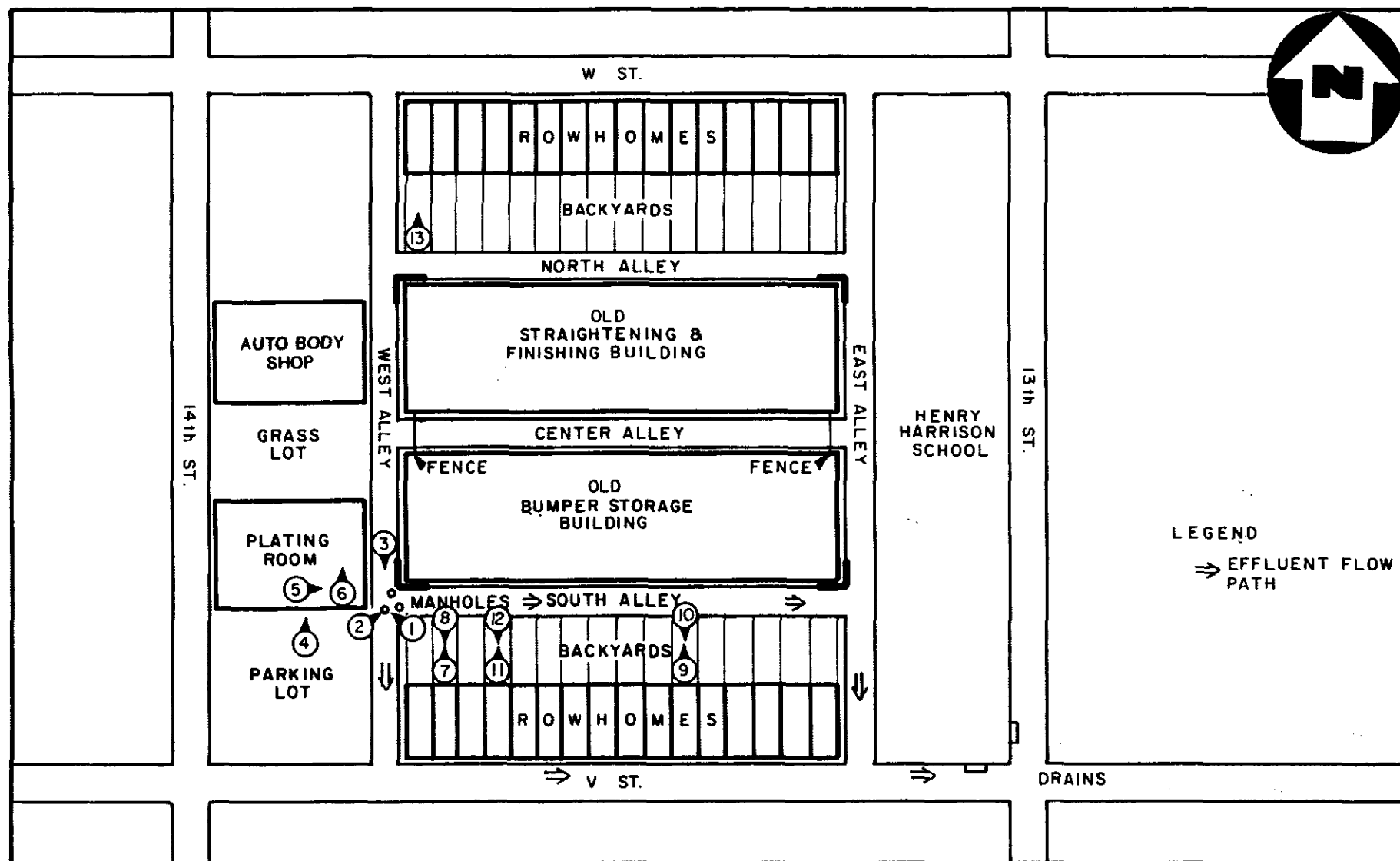


PHOTO LOCATION MAP

WASHINGTON PLATING CO., WASHINGTON, D.C.
(NO SCALE)

FIGURE 5.2

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID # 418771
PAGE # _____

IMAGERY COVER SHEET
UNSCANNABLE ITEM

Contact the CERCLA Records Center to view this document.

| | |
|--------------------|---------------------------|
| SITE NAME | <u>Washington Plating</u> |
| OPERABLE UNIT | <u>00</u> |
| SECTION/BOX/FOLDER | <u>1c / BOX 1 / 1.003</u> |

| | |
|------------------------------------|-------------------------------|
| REPORT OR DOCUMENT TITLE | <u>Site Inspection Report</u> |
| DATE OF DOCUMENT | <u>9/13/89</u> |
| DESCRIPTION OF IMAGERY | <u>Photographs</u> |
| NUMBER AND TYPE OF IMAGERY ITEM(S) | <u>Photographs</u> |



EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE
DC02 SITE NUMBER
007

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)

Washington Plating

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER

2109 14th Street Northwest

03 CITY

Washington

04 STATE

D.C.

05 ZIP CODE

20009

06 COUNTY

N/A

07 COUNTY CODE

001

08 CONG. DIST.

DC01

09 COORDINATES

LATITUDE

38° 35' 06"

LONGITUDE

77° 01' 55"

10 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE☐ B. FEDERAL☐ F. OTHER☐ C. STATE☐ D. COUNTY☐ E. MUNICIPAL☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION

12/6/88

02 SITE STATUS

☐ ACTIVE
☒ INACTIVE

03 YEARS OF OPERATION

1973

1987

BEGINNING YEAR

ENDING YEAR

UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA☒ B. EPA CONTRACTOR

NUS Corporation

(Name of firm)

☐ C. MUNICIPAL☐ D. MUNICIPAL CONTRACTOR

(Name of firm)

☐ E. STATE☐ F. STATE CONTRACTOR

(Name of firm)

☐ G. OTHER

(Specify)

05 CHIEF INSPECTOR

(b) (4)

06 TITLE

Geologist

07 ORGANIZATION

NUS FIT 3

08 TELEPHONE NO.

(215) 687-9510

09 OTHER INSPECTORS

(b) (4)

10 TITLE

Geologist

11 ORGANIZATION

NUS FIT 3

12 TELEPHONE NO.

(215) 687-9510

(b) (4)

Geologist

NUS FIT 3

(215) 687-9510

(b) (4)

(b) (4)

Geologist

NUS FIT 3

(215) 687-9510

(b) (4)

Environmental Technician

NUS FIT 3

(215) 687-9510

13 SITE REPRESENTATIVES INTERVIEWED

George Galich

14 TITLE

President

15 ADDRESS Washington Plating Company
2215 Adams Place, Northeast
Washington, DC 10018

16 TELEPHONE NO.

(202) 636-8715

Jose Flores

Employee

Washington Plating Company
2215 Adams Place, Northeast,
Washington, DC 10018

(202) 636-8715

17 ACCESS GAINED BY

☐ (Check one)
PERMISSION
☐ WARRANT

18 TIME OF INSPECTION

9:00 a.m.

19 WEATHER CONDITIONS

Sunny, with temperatures in the 50s.

IV. INFORMATION AVAILABLE FROM

01 CONTACT

James McCreary

02 OF (Agency/Organization)

U.S. EPA

03 TELEPHONE NO.

(215) 597-1105

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM

(b) (4)

05 AGENCY

NUS

06 ORGANIZATION

FIT 3

07 TELEPHONE NO.

(215) 687-9510

08 DATE

6/30/89

**EPA****POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION****I. IDENTIFICATION****01 STATE**
DC**02 SITE NUMBER**
007**II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS****01 PHYSICAL STATES** (Check all that apply)

- ☐ A. SOLID
☐ B. POWDER, FINES
☐ C. SLUDGE
☐ D. OTHER _____
(Specify)
- ☐ E. SLURRY
☒ F. LIQUID
☐ G. GAS

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS _____
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC
☐ B. CORROSIVE
☐ C. RADIOACTIVE
☒ D. PERSISTENT
- ☐ E. SOLUBLE
☐ F. INFECTIOUS
☐ G. FLAMMABLE
☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
☐ J. EXPLOSIVE
☐ K. REACTIVE
☐ L. INCOMPATIBLE
☐ M. NOT APPLICABLE

III. WASTE TYPE

| CATEGORY | SUBSTANCE NAME | 01 GROSS AMOUNT | 02 UNIT OF MEASURE | 03 COMMENTS |
|----------|-------------------------|-----------------|--------------------|-------------|
| SLU | SLUDGE | | | |
| OLW | OILY WASTE | | | |
| SOL | SOLVENTS | | | |
| PSD | PESTICIDES | | | |
| OCC | OTHER ORGANIC CHEMICALS | | | |
| IOC | INORGANIC CHEMICALS | | | |
| ACD | ACIDS | | | |
| BAS | BASES | | | |
| MES | HEAVY METALS | | | |

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

| 01 CATEGORY | 02 SUBSTANCE NAME | 03 CAS NUMBER | 04 STORAGE/ DISPOSAL METHOD | 05 CONCENTRATION | 06 MEASURE OF CONCENTRATION |
|-------------|-----------------------------|---------------|-----------------------------|------------------|-----------------------------|
| MES | mercury | 7439-97-6 | Spills | 4.70 | mg/kg |
| MES | chromium | 7740-47-3 | Spills | 2,900 | mg/kg |
| MES | lead | 7439-92-1 | Spills | 8,070 | mg/kg |
| MES | zinc | 7440-66-6 | Spills | 14,500 | mg/kg |
| MES | cyanide | 57-12-5 | Spills | 10.60 | mg/kg |
| OCC | naphthalene | 91-20-3 | Spills | 1,700 | ug/kg |
| OCC | acenaphthylene | 208-96-8 | Spills | 370 | ug/kg |
| OCC | dibenzofuran | 132-64-9 | Spills | 460 | ug/kg |
| OCC | *pentachlorophenol | 87-86-5 | Spills | 5,600 | ug/kg |
| OCC | bis(2-ethylhexyl) phthalate | 117-81-7 | Spills | 23,000 | ug/kg |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

IV. FEEDSTOCKS (See Appendix for CAS Numbers)

| CATEGORY | 01 FEEDSTOCK NAME | 02 CAS NUMBER | CATEGORY | 01 FEEDSTOCK NAME | 02 CAS NUMBER |
|----------|-------------------|---------------|----------|-------------------|---------------|
| FDS | | | FDS | | |
| FDS | | | FDS | | |
| FDS | | | FDS | | |
| FDS | | | FDS | | |

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NUS FIT 3. Site inspection. TDD No. F3-8810-15, December 6, 1988.

**EPA**

**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS
AND INCIDENTS**

I. IDENTIFICATION01 STATE
DC02 SITE NUMBER
17007**II. HAZARDOUS CONDITIONS AND INCIDENTS**01 ☐ A. GROUNDWATER CONTAMINATION02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ B. SURFACE WATER CONTAMINATION02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ C. CONTAMINATION OF AIR02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ E. DIRECT CONTACT02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☒ F. CONTAMINATION OF SOIL02 ☐ OBSERVED (DATE: 12/6/88)☒ POTENTIAL ☐ ALLEGED03 AREA POTENTIALLY AFFECTED: <0.25
(Acres)

04 NARRATIVE DESCRIPTION

A soil sediment sample from the basement revealed elevated levels of semivolatile organic contaminants and elevated levels of inorganic contaminants.

01 ☐ G. DRINKING WATER CONTAMINATION02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ H. WORKER EXPOSURE/INJURY02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

03 WORKERS POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ I. POPULATION EXPOSURE/INJURY02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None reported or observed

**EPA**

**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS
AND INCIDENTS**

I. IDENTIFICATION01 STATE
DC02 SITE NUMBER
007
(11/88)**II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)**01 ☐ J. DAMAGE TO FLORA02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ K. DAMAGE TO FAUNA02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION (Include name(s) of species)

None reported or observed

01 ☐ L. CONTAMINATION OF FOOD CHAIN02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES02 ☐ OBSERVED (DATE: 12/6/88)☐ POTENTIAL ☐ ALLEGED

(Spills, Runoff, Standing liquids, Leaking drums)

03 POPULATION POTENTIALLY AFFECTED: 12,520 within 1 mile

04 NARRATIVE DESCRIPTION

There was an observed chemical spill in the basement. Sample results indicated elevated levels of semi-volatile organic contaminants and elevated levels of inorganic contaminants.

01 ☐ N. DAMAGE TO OFF-SITE PROPERTY02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

None reported or observed

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING02 ☐ OBSERVED (DATE: _____)☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

None reported or observed

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None reported or observed

III. TOTAL POPULATION POTENTIALLY AFFECTED: 12,520 within 1 mile**IV. COMMENTS**

Rainfall has caused an overflow from the basement of the former facility onto private property.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NUS FIT 3. Site inspection. TDD No. F3-8810-15, December 6, 1988.

**EPA**

**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION**

I. IDENTIFICATION**01 STATE**
DC**02 SITE NUMBER**
ORIGINAL

(Red)

II. PERMIT INFORMATION

| 01 TYPE OF PERMIT ISSUED (Check all that apply) | 02 PERMIT NUMBER | 03 DATE ISSUED | 04 EXPIRATION DATE | 05 COMMENTS |
|--|------------------|----------------|--------------------|-----------------|
| <input type="checkbox"/> A. NPDES | | | | |
| <input type="checkbox"/> B. UIC | | | | |
| <input type="checkbox"/> C. AIR | | | | |
| <input type="checkbox"/> D. RCRA | | | | |
| <input type="checkbox"/> E. RCRA INTERIM STATUS | | | | |
| <input type="checkbox"/> F. SPCC PLAN | | | | |
| <input type="checkbox"/> G. STATE (Specify) | | | | |
| <input checked="" type="checkbox"/> H. LOCAL (Specify) <u>District of Columbia</u> | N/A | 12/86 | 1/87 | sewer discharge |
| <input type="checkbox"/> I. OTHER (Specify) | | | | |
| <input type="checkbox"/> J. NONE | | | | |

III. SITE DESCRIPTION

| 01 STORAGE/ DISPOSAL (Check all that apply) | 02 AMOUNT | 03 UNIT OF MEASURE | 04 TREATMENT (Check all that apply) | 05 OTHER |
|--|----------------|--------------------|--|--|
| <input type="checkbox"/> A. SURFACE IMPOUNDMENT | | | <input type="checkbox"/> A. INCINERATION | <input checked="" type="checkbox"/> A. BUILDINGS ON SITE |
| <input type="checkbox"/> B. PILES | | | <input type="checkbox"/> B. UNDERGROUND INJECTION | |
| <input type="checkbox"/> C. DRUMS, ABOVE GROUND | | | <input type="checkbox"/> C. CHEMICAL/PHYSICAL | |
| <input type="checkbox"/> D. TANK, ABOVE GROUND | | | <input type="checkbox"/> D. BIOLOGICAL | |
| <input type="checkbox"/> E. TANK, BELOW GROUND | | | <input type="checkbox"/> E. WASTE OIL PROCESSING | |
| <input type="checkbox"/> F. LANDFILL | | | <input type="checkbox"/> F. SOLVENT RECOVERY | 06 AREA OF SITE |
| <input type="checkbox"/> G. LANDFARM | | | <input type="checkbox"/> G. OTHER RECYCLING/RECOVERY | <u>1</u> (Acres) |
| <input type="checkbox"/> H. OPEN DUMP | | | <input type="checkbox"/> H. OTHER <u>N/A</u> (Specify) | |
| <input checked="" type="checkbox"/> I. OTHER <u>spill</u> (Specify) | <u>unknown</u> | | | |

07 COMMENTS

Around 1986, a blockage in a sewer line caused an overflow of plating baths and/or rinses to be discharged into the basement of the plating room. Rain water has added to the volume of the spill.

IV. CONTAINMENT

| |
|---|
| 01 CONTAINMENT OF WASTES (Check one) <input type="checkbox"/> A. ADEQUATE, SECURE <input checked="" type="checkbox"/> B. MODERATE <input type="checkbox"/> C. INADEQUATE, POOR <input type="checkbox"/> D. INSECURE, UNSOUND, DANGEROUS |
| 02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC. The spilled plating baths and/or rinses are located in a concrete basement. |

V. ACCESSIBILITY

| |
|--|
| 01 WASTE EASILY ACCESSIBLE: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| 02 COMMENTS Waste is located in the basement of a locked building. |

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NUS FIT 3. Site inspection. TDD No. F3-8810-15, December 6, 1988.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE
DC

02 SITE NUMBER
007G1NA

II. DRINKING WATER SUPPLY

| | | | | | | |
|--|--|--|--|--|---------------------|--|
| 01 TYPE OF DRINKING SUPPLY (Check as applicable) | | 02 STATUS | | | 03 DISTANCE TO SITE | |
| SURFACE WELL | | ENDANGERED AFFECTED MONITORED | | | | |
| COMMUNITY A. <input checked="" type="checkbox"/> B. <input type="checkbox"/> | | A. <input type="checkbox"/> B. <input type="checkbox"/> C. <input checked="" type="checkbox"/> D. <input type="checkbox"/> E. <input type="checkbox"/> F. <input type="checkbox"/> | | | A. 13.6 (mi) | |
| NON-COMMUNITY C. <input type="checkbox"/> D. <input type="checkbox"/> | | | | | B. (mi) | |

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

- ☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ D. NOT USED, UNUSABLE
COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)

| | | | | | |
|---------------------------------------|--|---|--|---|--|
| 02 POPULATION SERVED BY GROUNDWATER 0 | | 03 DISTANCE TO NEAREST DRINKING WATER WELL N/A (mi) | | | |
| 04 DEPTH TO GROUNDWATER 124 (ft) | 05 DIRECTION OF GROUNDWATER FLOW to the south | 06 DEPTH TO AQUIFER OF CONCERN unknown (ft) | 07 POTENTIAL YIELD OF AQUIFER 115,200 (gpd) | 08 SOLE SOURCE AQUIFER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | |

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

Wells are typically unused. Well depths range between 21 and 825 feet, with an average depth of 124 feet. Specific well locations are unknown.

10 RECHARGE AREA

- ☒ YES COMMENTS
Recharge is accomplished through precipitation and local bodies of surface water.

11 DISCHARGE AREA

- ☒ YES COMMENTS
Groundwater probably discharges into the Potomac River.

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

- ☒ A. RESERVOIR, RECREATION, DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

| | | |
|-------|--------------------------|------------------|
| NAME: | AFFECTED | DISTANCE TO SITE |
| N/A | <input type="checkbox"/> | (mi) |
| | <input type="checkbox"/> | (mi) |
| | <input type="checkbox"/> | (mi) |

V. DEMOGRAPHIC AND PROPERTY INFORMATION

| | | | | |
|---|--------------------------|---------------------------|--|--|
| 01 TOTAL POPULATION WITHIN | | | 02 DISTANCE TO NEAREST POPULATION | |
| ONE (1) MILE OF SITE | TWO (2) MILES OF SITE | THREE (3) MILES OF SITE | | |
| A. 12,520 NO. OF PERSONS | B. 56,340 NO. OF PERSONS | C. 125,200 NO. OF PERSONS | 200 feet (mi) | |
| 03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE | | | 04 DISTANCE TO NEAREST OFF-SITE BUILDING | |
| 14,826 | | | 20 feet (mi) | |

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The site is located in Washington, D.C. The area of the site is heavily populated.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

1. IDENTIFICATION

01 STATE
DC

02 SITE NUMBER
007

ORIGINAL
(Red)
ORIGINAL
(Red)

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☒ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK

<124 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

unknown (ft)

05 SOIL pH

unknown

06 NET PRECIPITATION

35.5 (in)

07 ONE-YEAR 24-HOUR RAINFALL

2.5 (in)

08 SLOPE
SITE SLOPE

<1 %

DIRECTION OF SITE SLOPE

southeast

TERRAIN AVERAGE SLOPE

<1 %

09 FLOOD POTENTIAL

SITE IS IN N/A YEAR FLOODPLAIN

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5-acre minimum)

ESTUARINE

OTHER

A. 3/4 (mi) B. (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

N/A (mi)

ENDANGERED SPECIES:

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

A. 50 feet (ft)

RESIDENTIAL AREAS: NATIONAL/STATE PARKS,
FORESTS, OR WILDLIFE RESERVES

B. 20 feet (ft)

AGRICULTURAL LANDS
PRIME AG LAND AG LAND

C. >3 (mi) D. >3 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site lies on the broad, gently sloping bank of the Potomac River, 2.5 miles north of the river.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NUS FIT 3. Site inspection. TDD No. F3-8810-15, December 6, 1988.

Johnston, P.M., United States Geological Survey. Geology and Groundwater Resources of Washington, D.C. and Vicinity. Geological Survey Water Supply Paper 1776, undated.

**EPA****POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION****I. IDENTIFICATION****01 STATE**
DC**02 SITE NUMBER**
007
*(Red)***II. SAMPLES TAKEN**

| SAMPLE TYPE | 01 NUMBER OF SAMPLES TAKEN | 02 SAMPLES SENT TO | 03 ESTIMATED DATE RESULTS AVAILABLE |
|---------------|----------------------------|--|-------------------------------------|
| GROUNDWATER | | organic samples were sent to IT | |
| SURFACE WATER | 1 | | |
| WASTE | | Inorganic samples were sent to JTC | |
| AIR | | | |
| RUNOFF | | Hexavalent chrome samples were sent to Chem Tech | |
| SPILL | | | |
| SOIL | 7 | | |
| VEGETATION | | | |
| OTHER Blank | 2 | | |

III. FIELD MEASUREMENTS TAKEN

| 01 TYPE | 02 COMMENTS |
|----------------------|--|
| HNU | The background reading was 0.1 ppm. No readings above background were recorded. |
| Radiation mini-alert | The mini-alert was set at the X1 position. No readings above background were recorded. |
| | |
| | |

IV. PHOTOGRAPHS AND MAPS

| | |
|--|---|
| 01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL | 02 IN CUSTODY OF <u>NUS Corporation</u> (Name of organization or individual) |
| 03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | 04 LOCATION OF MAPS <u>NUS FIT 3 Site inspection, TDD No. F3-8810-15</u> |

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

N/A

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NUS FIT 3. Site inspection. TDD No. F3-8810-15, December 6, 1988.

**EPA****POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION****I. IDENTIFICATION****01 STATE**

DC

02 SITE NUMBER

007

111201

II. CURRENT OWNER(S)**PARENT COMPANY (if applicable)****01 NAME**

George Galich

02 D + B NUMBER**08 NAME**

N/A

09 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)**

2215 Adams Place Northeast

04 SIC CODE**10 STREET ADDRESS (P.O. Box, RFD #, etc.)****11 SIC CODE****05 CITY**

Washington

06 STATE

DC

07 ZIP CODE

10018

12 CITY**13 STATE****14 ZIP CODE****01 NAME****02 D + B NUMBER****08 NAME**

N/A

09 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****10 STREET ADDRESS (P.O. Box, RFD #, etc.)****11 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****12 CITY****13 STATE****14 ZIP CODE****01 NAME****02 D + B NUMBER****08 NAME**

N/A

09 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****10 STREET ADDRESS (P.O. Box, RFD #, etc.)****11 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****12 CITY****13 STATE****14 ZIP CODE****01 NAME****02 D + B NUMBER****08 NAME**

N/A

09 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****10 STREET ADDRESS (P.O. Box, RFD #, etc.)****11 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****12 CITY****13 STATE****14 ZIP CODE****III. PREVIOUS OWNER(S) (list most recent first)****IV. REALTY OWNER(S) (if applicable, list most recent first)****01 NAME****02 D + B NUMBER****01 NAME**

N/A

02 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****05 CITY****06 STATE****07 ZIP CODE****01 NAME****02 D + B NUMBER****01 NAME**

N/A

02 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****05 CITY****06 STATE****07 ZIP CODE****01 NAME****02 D + B NUMBER****01 NAME**

N/A

02 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****05 CITY****06 STATE****07 ZIP CODE****V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)**

NUS FIT 3. Site inspection. TDD No. F3-8810-15, December 6, 1988.

**EPA****POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION****I. IDENTIFICATION****01 STATE**

DC

02 SITE NUMBER

007

II. CURRENT OPERATOR (Provide if different from owner)**OPERATOR'S PARENT COMPANY (if applicable)****01 NAME**

Washington Plating Company

02 D + B NUMBER**10 NAME**

N/A

11 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)**

2215 Adams Place Northeast

04 SIC CODE**12 STREET ADDRESS (P.O. Box, RFD #, etc.)****13 SIC CODE****05 CITY**

Washington

06 STATE

DC

07 ZIP CODE

10018

14 CITY**15 STATE****16 ZIP CODE****08 YEARS OF OPERATION**

10

09 NAME OF OWNER

George Galich

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)**PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)****01 NAME**

Unknown

02 D + B NUMBER**10 NAME**

N/A

11 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****12 STREET ADDRESS (P.O. Box, RFD #, etc.)****13 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****14 CITY****15 STATE****16 ZIP CODE****08 YEARS OF OPERATION****09 NAME OF OWNER DURING THIS PERIOD****01 NAME****02 D + B NUMBER****10 NAME**

N/A

11 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****12 STREET ADDRESS (P.O. Box, RFD #, etc.)****13 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****14 CITY****15 STATE****16 ZIP CODE****08 YEARS OF OPERATION****09 NAME OF OWNER DURING THIS PERIOD****01 NAME****02 D + B NUMBER****10 NAME**

N/A

11 D + B NUMBER**03 STREET ADDRESS (P.O. Box, RFD #, etc.)****04 SIC CODE****12 STREET ADDRESS (P.O. Box, RFD #, etc.)****13 SIC CODE****05 CITY****06 STATE****07 ZIP CODE****14 CITY****15 STATE****16 ZIP CODE****08 YEARS OF OPERATION****09 NAME OF OWNER DURING THIS PERIOD****IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)**

NUS FIT 3. Site inspection TDD No. F3-8810-15, December 6, 1989.

**EPA****POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION****I. IDENTIFICATION****01 STATE**
DC**02 SITE NUMBER**
007**II. ON-SITE GENERATOR**

| | | | |
|--|-----------------------|-----------------------------|--|
| 01 NAME Washington | | 02 D + B NUMBER | |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) 2215 Adams Place Northeast | | 04 SIC CODE | |
| 05 CITY Washington | 06 STATE DC | 07 ZIP CODE 10018 | |

III. OFF-SITE GENERATOR(S)

| | | | | | | | |
|--|-----------------|------------------------|--|--|-----------------|------------------------|--|
| 01 NAME | | 02 D + B NUMBER | | 01 NAME | | 02 D + B NUMBER | |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | |
| 05 CITY | 06 STATE | 07 ZIP CODE | | 05 CITY | 06 STATE | 07 ZIP CODE | |
| 01 NAME | | 02 D + B NUMBER | | 01 NAME | | 02 D + B NUMBER | |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | |
| 05 CITY | 06 STATE | 07 ZIP CODE | | 05 CITY | 06 STATE | 07 ZIP CODE | |

IV. TRANSPORTER(S)

| | | | | | | | |
|--|-----------------|------------------------|--|--|-----------------|------------------------|--|
| 01 NAME | | 02 D + B NUMBER | | 01 NAME N/A | | 02 D + B NUMBER | |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | |
| 05 CITY | 06 STATE | 07 ZIP CODE | | 05 CITY | 06 STATE | 07 ZIP CODE | |
| 01 NAME | | 02 D + B NUMBER | | 01 NAME N/A | | 02 D + B NUMBER | |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | |
| 05 CITY | 06 STATE | 07 ZIP CODE | | 05 CITY | 06 STATE | 07 ZIP CODE | |

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NUS FIT 3. Site inspection. TDD No. F3-8810-15, December 6, 1988.

**EPA****POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES****I. IDENTIFICATION**01 STATE
DC02 SITE NUMBER
007**II. PAST RESPONSE ACTIVITIES**01 ☐ **A. WATER SUPPLY CLOSED**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **B. TEMPORARY WATER SUPPLY PROVIDED**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **C. PERMANENT WATER SUPPLY PROVIDED**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **D. SPILLED MATERIAL REMOVED**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **E. CONTAMINATED SOIL REMOVED**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **F. WASTE REPACKAGED**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **G. WASTE DISPOSED ELSEWHERE**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **H. ON-SITE BURIAL**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **I. IN SITU CHEMICAL TREATMENT**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **J. IN SITU BIOLOGICAL TREATMENT**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **K. IN SITU PHYSICAL TREATMENT**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **L. ENCAPSULATION**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **M. EMERGENCY WASTE TREATMENT**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **N. CUTOFF WALLS**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **O. EMERGENCY DIKING/SURFACE WATER DIVERSION**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **P. CUTOFF TRENCHES/SUMP**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

01 ☐ **Q. SUBSURFACE CUTOFF WALL**
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

None reported or observed

**EPA****POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES****I. IDENTIFICATION****01 STATE**
DC**02 SITE NUMBER**
007**N. PAST RESPONSE ACTIVITIES (Continued)****01 ☐ R. BARRIER WALLS CONSTRUCTED**
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ S. CAPPING/COVERING
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ T. BULK TANKAGE REPAIRED
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ V. BOTTOM SEALED
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ W. GAS CONTROL
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ X. FIRE CONTROL
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ Y. LEACHATE TREATMENT
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ Z. AREA EVACUATED
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ 2. POPULATION RELOCATED
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____

None reported or observed

01 ☐ 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION**02 DATE** _____**03 AGENCY** _____**III. SOURCES OF INFORMATION** (Cite specific references, e.g., state files, sample analysis, reports)

NUS FIT 3. Site inspection TDD No. F3-8810-15, December 6, 1988.

**EPA****POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION****I. IDENTIFICATION****01 STATE**
DC**02 SITE NUMBER**
007**II. ENFORCEMENT INFORMATION****01 PAST REGULATORY/ENFORCEMENT ACTION** ☒ YES ☐ NO**02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION**

The District of Columbia, Government Environmental Control Division, Hazardous Waste Section, sampled on and around the site in March, April, and June 1986.

No other regulatory or enforcement action has taken place at this site.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NUS FIT 3. Site inspection TDD No. F3-8810-15, December 6, 1988.

ORIGINAL
(Red)

SECTION 6

6.0 REFERENCES FOR SECTIONS 1.0 THROUGH 5.0

1. United States Geological Survey. Washington West, D.C. - Maryland - Virginia Quadrangle, 7.5 Minute Series. Topographic Map. 1965, photorevised 1983. Combined with Washington East, D.C. - Maryland Quadrangle, 7.5 Minute Series. Topographic Map. 1965, photorevised 1979; Alexandria, Virginia - District of Columbia - Maryland Quadrangle, 7.5 Minute Series. Topographic Map. 1965, photorevised 1983; and Anacostia, Maryland - District of Columbia Quadrangle, 7.5 Minute Series. Topographic Map. 1965.
2. NUS Corporation, FIT 3. Site inspection; site visit. TDD No. F3-8810-15, December 6, 1988.
3. Milosevic, Milan, Washington Plating Company, with Paul Persing, NUS FIT 3. Meeting. April 9, 1987.
4. Milosevic, Milan, Washington Plating Company, with Elizabeth Coughlin, NUS FIT 3. Telecon. March 27, 1989.
5. Milosevic, Milan, of Washington Plating Company, with Elizabeth Coughlin, NUS FIT 3. Telecon. March 30, 1989.
6. Bacon, Byron, District of Columbia, Department of Consumer and Regulatory Affairs, with Paul Persing, NUS FIT 3. Meeting. April 9, 1987.
7. Bacon, Byron, District of Columbia, Department of Consumer and Regulatory Affairs, to Angelo Tompros, Chief, Pesticides and Hazardous Waste Management. Correspondence. March 1986.
8. Bacon, Byron, District of Columbia, Department of Consumer and Regulatory Affairs, to Angelo Tompros, Chief, Pesticides and Hazardous Waste Management. Correspondence. February 1986.
9. Collier, James, Environmental Control, with Paul Persing, NUS FIT 3. Telecon. March 24, 1987.
10. District of Columbia, Department of Public Works. Sewer Map. February 21, 1980.

11. Kessler, Richard, Washington Suburban Sanitary Authority, with Paul Dietrich, NUS FIT 3. Telecon. March 17, 1987.
12. Fallin, Wayne, Washington Suburban Sanitary Authority, with Gilbert Marshal, NUS FIT 3. Telecon. October 21, 1985.
13. Cameron, Craig, Fairfax County Water Authority, with David D. Doran, NUS FIT 3. Telecon. September 21, 1986.
14. Eunpu, Floyd, Fairfax County Water Authority, with Edward Jamison, NUS FIT 3. Telecon. April 3, 1989.
15. Johnston, P.M., United States Geological Survey. Geology and Groundwater Resources of Washington, D. C. and Vicinity. Geological Survey Water Supply Paper, 1776, 1976.
16. Mack, F.K., Maryland Geological Survey. Groundwater in Prince Georges County. Bulletin 29, 1966.
17. National Oceanic and Atmospheric Administration. Climatography of the United States. Local Climatological Data. Annual Summary with Comparative Data. Laurel, Maryland. 1980.
18. United States Department of Commerce, National Climatic Center. Climatic Atlas of the United States. 1979.
19. United States Department of Commerce, United States Printing Office. Rainfall Frequency Atlas of the United States. Technical Paper No. 40, 1963.
20. Mr. O'Brian, United States Population Census Bureau, with Paul Persing, NUS FIT 3. Telecon. May 5, 1987.
21. Wolflin, John P., United States Department of the Interior, Fish and Wildlife Service, Division of Ecological Services, to Garth Glenn, NUS FIT 3. Correspondence. February 7, 1989.

Site Name: Washington Plating
TDD No.: F3-8810-15

22. Government of the District of Columbia, Department of Public Works Water and Sewer Utility Administration. Wastewater Discharge Permit Applications. August 11, 1986.
23. Donnelly, Daniel K., Annapolis Laboratory of EPA, to Neilima Sengalia, District of Columbia Hazardous Waste Section. Correspondence. May 12, 1986.

SECTION 7

SITE NAME: Washington Plating
TOD NUMBER: F3-8810-15
LAB NAMES: IT Pittsburg, JTC Environmental Consultants (inorg)

SAMPLING DATE(s): 12-6-
CASE NUMBER: 11032

STATE/LOCAL/USE: OH-LI
EPA NUMBER: 21007

| SAMPLE NUMBER: | CY069 | CY070 | CY071 | CY072 | CY073 | CY074 | CY075 | CY076 | CY077 | CY078 |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| SAMPLE ID: | S-1 | S-2 | S-3 | S-4 | S-5 | S-6 | S-7 | S-8 | S-9 | S-10 |
| LOCATION: | Off-site | off-site | off-site | off-site | off-site | off-site | off-site | off-site | off-site | off-site |
| DUB ADDRESS | accessbackvd | accessbackvd | resdofaccess | resdofaccess | resdofaccess | resdofaccess | resdofaccess | resdofaccess | resdofaccess | resdofaccess |
| concrete | concrete | concrete | concrete | concrete | concrete | concrete | concrete | concrete | concrete | concrete |
| sandy, pebbly | drk loamy | drk, chloamy | loamy | loamy | loamy | loamy | loamy | loamy | loamy | loamy |
| PH: | 7.3 | 6.5 | 6.2 | 5.7 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 |
| FIELD MEASUREMENTS: | | | | | | | | | | |
| PERCENT SOLIDS: | 98.2% | 84.6% | 84.6% | 76.1% | 64.7% | 64.7% | 64.7% | 64.7% | 64.7% | 64.7% |
| TYPE OF DATA: ***** VOLATILES | | | | | | | | | | |
| DILUTION FACTOR: | 1.0 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |

| DET. LIMIT | SAMPLE NUMBER: | CY069 | CY070 | CY071 | CY072 | CY073 | CY074 | CY075 | CY076 | CY077 | CY078 |
|------------------------------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| CRQL (>=IDL) | UNITS: | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| 5.00 methylene chloride | | 15.00 B | 16.00 B | 11.00 B | 11.00 B | 11.00 B | 11.00 B | 11.00 B | 11.00 B | 11.00 B | 11.00 B |
| 10.00 acetone | | | | | | | | | | | |
| 5.00 carbon disulfide | | | | 11.00 | | | | | | | |
| 5.00 tetrachloroethene | | 1.00 B | | | | | | | | | |
| 5.00 1,1,2,2-tetrachloroethane | | 2.00 B | 1.00 B | | 1.00 B | | | | | | |
| 5.00 toluene | | 2.00 B | | | | | | | | | |
| 5.00 ethylbenzene | | 1.00 B | | | | | | | | | |
| 5.00 styrene | | 2.00 B | 1.00 B | | | | | | | | |
| 5.00 total xylenes | | 5.00 B | 4.00 B | | | | | | | | |
| TYPE OF DATA: ***** SEMI-VOLATILES | | | | | | | | | | | |
| DILUTION FACTOR: | | 34.0 | 43.0 | 41.0 | 42.0 | 34.0 | 44.0 | 97.0 | 1.0 | 1.0 | 4.0 |

| DET. LIMIT | SAMPLE NUMBER: | CY069 | CY070 | CY071 | CY072 | CY073 | CY074 | CY075 | CY076 | CY077 | CY078 |
|-----------------------------------|----------------|------------|-----------|-----------|-----------|----------|--------|-----------|--------|-------|-------|
| CRQL (>=IDL) | UNITS: | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| 10.00 1,3-dichlorobenzene | | 14.00 J | | | | | | | | | |
| 50.00 benzoic acid | | | 100.00 J | | | | | 280.00J* | | | |
| 10.00 2-methylphenol | | 180.00 J | 87.00 J | 590.00 | | 150.00 J | | 1700.00 L | | | |
| 10.00 2-methylnaphthalene | | 35.00 J | 53.00 J | 250.00 J | | | | 120.00 L | | | |
| 10.00 acenaphthylene | | | 51.00 J | 35.00 J | | | | 770.00 L | | | |
| 10.00 acenaphthene | | 270.00 J | 280.00 J | 1100.00 J | | | | | | | |
| 10.00 dibenzofuran | | 160.00 J | 170.00 J | 400.00 J | | | | 460.00 L | | | |
| 10.00 fluorene | | 200.00J* | 210.00 J | 690.00 | 120.00 J | 120.00 J | | 740.00 L | | | |
| 10.00 N-nitrosodiphenylamine | | | | | | | | | 1.00 J | | |
| 50.00 pentachlorobenzene | | 120.00 B | 92.00 B | | | | | | 1.00 J | | |
| 10.00 phenanthrene | | 2800.00 | 7400.00 | 4300.00 | 1570.00 | | | 750.00 J | | | |
| 10.00 anthracene | | 420.00J* | 490.00 | 1100.00 | 100.00 J | | | 750.00 L | | | |
| 10.00 di-n-butyl phthalate | | | 220.00 B | 77.00 B | 17.00 B | | | 110.00 B | | | |
| 10.00 fluoranthene | | 2400.00 | 4800.00 | 3800.00 | 2100.00 | | | 5100.00 L | | | |
| 10.00 pyrene | | | 4300.00 J | 6500.00 J | 2000.00 J | | | 7100.00 L | | | |
| 10.00 butylbenzyl phthalate | | 12000.00J* | 1700.00 B | 410.00 B | | | | 170.00B* | | | |
| 10.00 benzo(a)anthracene | | 1700.00 | 1700.00 | 7600.00 | 100.00 J | | | 750.00 L | | | |
| 10.00 bis(2-ethylhexyl) phthalate | | 1500.00 B | 1500.00 B | 720.00 B | 510.00 J | | | 110.00 J | | | |
| 10.00 chrysene | | 1500.00 | 1700.00 | 2800.00 | 100.00 J | | | 750.00 L | | | |
| 10.00 di-n-octyl phthalate | | 170.00J* | | | | | | | | | |
| 10.00 benzo(b)fluoranthene | | 1500.00 J* | 2200.00 | 2500.00 | 1000.00 | | | 1800.00 L | | | |
| 10.00 benzo(k)fluoranthene | | 1200.00J* | 1600.00 | 2400.00 | 440.00 | | | 1000.00 L | | | |
| 10.00 benzo(a)pyrene | | 170.00 J* | | | | | | 750.00 L | | | |
| 10.00 indeno(1,2,3-cd)pyrene | | | 1500.00 J | | | | | 770.00 J* | | | |
| 10.00 dibenz(a,h)anthracene | | 2400.00 | 590.00 | 100.00 J | | | | 110.00 J* | | | |
| 10.00 benzo(g,h,i)perylene | | 750.00 | 1400.00 | | 610.00 | 450.00 | | 800.00L* | | | |
| TYPE OF DATA: ***** PESTICIDES | | | | | | | | | | | |
| DILUTION FACTOR: | | 1700.0 | 1700.0 | 1600.0 | 1600.0 | 1700.0 | 1700.0 | 1700.0 | 1.0 | 1.0 | 1.0 |

010111A1
(Red)

SITE NAME: Washington Plating

SAMPLING DATE(s): 12-6

STATE/COUNTY CODE: DE-11

TDD NUMBER: F3-8810-15

CASE NUMBER: 11032

EPA NUMBER: 80697

LAB NAMES: IT Pitt(org), JTC Environmental Consultants (inorg)

| | SAMPLE NUMBER: | CY069 | CY070 | CY071 | CY072 | CY073 | CY074 | CY075 | CY076 | CY077 | CY078 |
|---------------------|---------------------|--------------|--------------|---------------|--------------|---------------|---------------|--------------|----------|----------|---------|
| | SAMPLE ID: | S-1 | S-2 | S-3 | S-4 | S-5 | S-Blank | Sd-1 | Sd-1 | Ag-Blank | S-Blank |
| | LOCATION: | Off-site | off-site | off-site | off-site | Off-site | Off-site | basement | basement | Overl | Blank |
| | | pub access | accessbackvd | resndtaccess | resndtaccess | pub access | pub access | on-site | on-site | | |
| | | concrete | concrete | concrete | concrete | no accesswq | no accesswq | Sd-1 | no usee | | |
| | | sandy,pebbly | drk loamv | drk,richloamv | loamv | loam,sludgust | loam,sludgust | sandblotgarb | clear | | |
| | PH: | 7.3 | 6.5 | 6.2 | 5.7 | 7.2 | 7.0 | 7.2 | 5.3 | | |
| | FIELD MEASUREMENTS: | | | | | | 0.1 ppm | | | | |
| | PERCENT SOLIDS: | 98.2% | 84.5% | 84.5% | 86.2% | 98.7% | 1.1% | 89.7% | | | |
| TYPE OF DATA: ***** | PESTICIDES | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |
| | DILUTION FACTOR: | 1300.0 | 1700.0 | 1600.0 | 1600.0 | 130.0 | 1700.0 | 400.0 | 1.0 | 1.0 | |

| | SAMPLE NUMBER: | CY069 | CY070 | CY071 | CY072 | CY073 | CY074 | CY075 | CY076 | CY077 | CY078 |
|--------------------|----------------|----------|----------|----------|-----------|-------|----------|-------|-------|-------|-------|
| BET. LIMIT | UNITS: | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/g | ug/g | ng/g |
| CROL (**IDL) | | | | | | | | | | | |
| 1.00 dieldrin | | | | | 570.00 R | | 540.00 R | | | | |
| 1.00 4,4'-DDT | | 390.00 R | 890.00 R | 240.00 R | 1300.00 R | | | | | | |
| 0.05 atradlor-1248 | | | | | 8800.00 R | | | | | | |

Comments: *****

data validated by RC

C= confirmed by GC/MS

* = reported from dilution or re-extract

SITE NAME: Washington Plating
 JOB NUMBER: FJ-8810-15
 LAB NAMES: IT Pitt(org), JTC Environmental Consultants (inorg)

SAMPLING DATE(s): 12-6
 CASE NUMBER: 11032

STATE/COUNTY CODE: DC-11
 EPA NUMBER: DC007

| SAMPLE NUMBER: | | MCY068 | MCY069 | MCY070 | MCY071 | MCY072 | MCY073 | MCY074 | MCY075 | MCY076 |
|--------------------------------------|----------------|---|---|--|--|------------|--|-------------------------------------|-----------------------------|----------|
| SAMPLE ID: | | S-1 | S-2 | S-3 | S-4 | S-5 | S-back | Sd-1 | SW-1 | 90-blank |
| LOCATION: | | Off-site pub access concrete sandy, pebbly | off-site access backvd concrete dry loam | off-site residential access concrete dry, rich loam | off-site residential access concrete loam | pub of S-1 | off-site back pub access no stress, dry loam, sandy | on-site SW-1 sand, black, dry | on-site no uses clear | blank |
| PH: | | | 8.5 | 6.2 | 5.7 | 7.2 | 7.1 | 7.2 | 6.7 | |
| FIELD MEASUREMENTS: | | | | | | | 0.2 ppm | | | |
| PERCENT SOLIDS: | | 98.2% | 81.0% | 84.6% | 78.2% | 69.3% | 73.1% | 55.7% | | |
| TYPE OF DATA: ***** INORGANICS ***** | | | | | | | | | | |
| DILUTION FACTOR: : BFAA | | 0.200 | 0.240 | 0.240 | 0.260 | 0.200 | 0.270 | 0.360 | 1.000 | 1.000 |
| : ICP | | 0.200 | 0.240 | 0.240 | 0.260 | 0.200 | 0.270 | 0.360 | 1.000 | 1.000 |
| : Hg | | 0.510 | 0.620 | 0.590 | 0.640 | 0.510 | 0.680 | 0.900 | 1.000 | 1.000 |
| : CN | | 0.200 | 0.250 | 0.240 | 0.260 | 0.200 | 0.270 | 0.360 | 1.000 | 1.000 |
| DET. LIMIT | SAMPLE NUMBER: | MCY068 | MCY069 | MCY070 | MCY071 | MCY072 | MCY073 | MCY074 | MCY075 | MCY076 |
| CRCL (±IDL) | UNITS: | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | ug/l | ug/l |
| * 164.00 aluminum | | 2710.00 L | 5130.00 L | 6450.00 L | 6570.00 L | 2540.00 L | 4440.00 L | 4440.00 L | | |
| * 48.00 antimony | | 21.60 | | | | | | 76.40 | | |
| * 5.00 arsenic | | 5.80 L | 5.80 B | 2.70 J | 12.30 | 6.10 | 10.20 J | 20.60 | 5.40 B | |
| * 8.60 barium | | 2520.00 | 390.00 | 559.00 | 475.00 | 2470.00 | 704.00 | 1120.00 | 145.00 | |
| * 3.90 beryllium | | | | 0.97 | 1.20 | | | | | |
| * 4.30 cadmium | | 4.00 | 1.60 | 1.90 | 5.10 | 5.00 | 13.50 | 13.40 | | |
| * 992.00 calcium | | 23200.00 | 7050.00 | 6800.00 | 7990.00 | 18700.00 | 77600.00 | 39100.00 | 19500.00 | |
| * 7.80 chromium | | 462.00 | 51.50 | 27.90 | 24.00 | 295.00 | 76.90 | 2900.00 | 113.00 | |
| * 14.00 cobalt | | 3.20 B | 11.80 B | 7.60 B | 6.10 B | 10.30 B | 10.30 B | 38.90 | | |
| * 23.00 copper | | 747.00 | 744.00 | 150.00 | 177.00 | 124.00 | 175.00 | 1880.00 | 56.40 | |
| * 31.00 iron | | 33100.00 | 15000.00 | 25600.00 | 18200.00 | 40700.00 | 17800.00 | 62600.00 | 772.00 J | 51.80 |
| * 0.80 lead (anal. by BFAA) | | | | | | | | | | 10.50 |
| * 77.00 lead (anal. by ICP) | | 1090.00 | 735.00 | 1580.00 | 1660.00 | 907.00 | 502.00 | 8070.00 | 1790.00 | |
| * 480.00 magnesium | | 1920.00 | 1620.00 | 642.00 | 573.00 | 1530.00 | 2450.00 | 14300.00 | 1720.00 | |
| * 10.00 manganese | | 216.00 | 241.00 | 351.00 | 241.00 | 227.00 | 109.00 | 363.00 | 21.80 | |
| * 0.12 mercury | | 0.25 | 2.10 | 1.70 | 2.70 | 1.70 | 1.67 | 4.70 | 6.20 | |
| * 23.00 nickel | | 1090.00 | 1760.00 | 91.40 | 121.00 | 1930.00 | 717.00 | 1680.00 | 1810.00 | |
| * 575.00 potassium | | 245.00 | 711.00 | 483.00 | 360.00 | 385.00 | 676.00 | 733.00 | 2050.00 | |
| * 3.60 selenium | | 1.40 L | 2.90 L | 2.90 L | 2.70 L | | 1.40 L | 2.00 L | | |
| * 4270.00 sodium | | 2260.00 | 1270.00 | 1670.00 | 1480.00 | 1870.00 | 2550.00 | 16300.00 | 11700.00 | |
| * 10.00 vanadium | | 17.70 | 43.10 | 45.70 | 70.90 | 22.00 | 78.00 | 11.20 | | |
| * 16.00 zinc | | 2270.00 | 976.00 | 1070.00 | 1120.00 | 2210.00 | 1980.00 | 14500.00 | 328.00 | |
| * 10.00 cyanide | | | 3.00 J | 5.20 J | 9.10 J | 44.40 J | | 10.60 J | | |

11/10/88
 (Red)

YOUNG & RUBICAM

[illegible]

KEY:

- | | | |
|-------------------------|----------------------|------------------------|
| 1) TDD NUMBER | 6) LABORATORY NAME | 11) DILUTION FACTOR |
| 2) EPA NUMBER | 7) TRAFFIC REPORT # | 12) PH |
| 3) SITE NAME | 8) SAMPLE IDENTIFIER | 13) FIELD MEASUREMENTS |
| 4) STATE & COUNTY CODE | 9) PHASE | 14) PERCENT SOLID |
| 5) ORGANIC OR INORGANIC | 10) CONCENTRATION | 15) UNITS |

4320C-1 and 4230C-5 are field duplicates

Red

7.2 Quality Assurance Review

7.2.1 Organic Data: Lab Case 11032

7.2.1.1 Introduction

Seven solid and two aqueous samples were analyzed for acid, base-neutral, and pesticide/polychlorinated biphenyl (PCB) compounds through the EPA Contract Laboratory Program (CLP). Included in the sample set were one field duplicate pair and one field blank. Also included was one aqueous blank to be analyzed for volatile organic compounds only.

The data have been fully reviewed to determine the usability of results according to the National and Regional Guidelines. (Areas examined in detail are listed in the Support Documentation appendix.) Data quality was acceptable for most compounds, with detection limit capability demonstrated by meeting criteria for holding times, surrogate and matrix spike recoveries, and instrument tuning and calibration. Detection limit capability is questionable for some acid compounds in a few samples. Blank contamination affected low levels of most volatile compounds and a few semivolatile compounds.

Principal areas of concern include blank contamination and low acid surrogate recoveries for one sample in particular.

7.2.1.2 Qualifiers

- All results for methylene chloride, acetone, 1,1,2,2-tetrachloroethane, tetrachloroethene, toluene, ethylbenzene, styrene, xylenes, pentachlorophenol, and di-n-butyl phthalate have been flagged as undetected due to blank contamination (B). All results for these laboratory contaminants are not significantly higher than the levels detected in all associated blanks. Other results that are flagged (B), due to blank contamination, include butylbenzyl phthalate in samples CY070, CY071, CY074, and CY075 and bis(2-ethylhexyl) phthalate in samples CY070, CY071, CY072, CY073, CY074, and CY076.
- The volatile fraction of sample CY069 was analyzed immediately after the third laboratory blank, which was run right after the daily calibration standard. Both the blank and this sample contained low levels (1 to 6 ug/l) of many later-eluting compounds. The failure of the gas chromatographic system to completely purge the trap of all compounds may be a contributing factor for this observed carryover.

- The laboratory diluted and re-analyzed the semivolatile fractions of solid samples CY069 and CY073 (field duplicates) because of high levels of butylbenzyl phthalate. With the exception of pyrene and di-n-butyl phthalate, the reviewer has reported the highest levels of all compounds detected in both analyses. Specifically, for CY069, all results were reported from the initial analysis except for fluorene, anthracene, di-n-octyl phthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene. For CY073, butylbenzyl phthalate, benzo(a)pyrene, and benz(a)anthracene have been reported from the re-analysis.
- Butylbenzyl phthalate was calculated manually by the reviewer for the dilution of CY069; this compound was not identified as a target compound by the laboratory software but was present as a tentatively identified compound (TIC) in the re-analysis of the sample. The result has been flagged as estimated (J) because of errors inherent in the manual calculation.
- The result for dibenz(a,h)anthracene has been flagged as tentatively identified in sample CY069. The result was very low, and the sample spectrum exhibited only a marginal match with the reference spectrum. A high hydrocarbon/siloxane background made identification difficult, but the presence of many other related polynuclear aromatic hydrocarbons (PAHs) corroborate the presence of dibenz(a,h)anthracene.
- The laboratory re-extracted and re-analyzed the semivolatile fraction of sample CY075 because of several low surrogate recoveries. The recoveries for 2-fluorobiphenyl and terphenyl were similarly low in both analyses, and the other surrogates displayed very similar recoveries as well. The reviewer has reported the highest levels of all compounds detected, with the exception of compounds considered attributable to blank contamination (see the following table). Benzoic acid, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene were the only non-artifact compounds reported from the re-analysis of this sample.
- Several results have been flagged because of blank contamination, while others have been reported as either unreliable or confident for samples CY069, CY073, and CY075, even though these compounds were detected in the blanks. The following table itemizes which phthalate, pentachlorophenol, or N-nitrosodiphenylamine results were reported for these two samples and the reasons behind the decisions.

| Sample | Compound | Result (ug/kg) | Analysis | Decision Criterion |
|--------|-----------------------------|----------------|-------------|--------------------|
| CY069 | pentachlorophenol | 120 | initial | 1 |
| | di-n-butyl phthalate | not detected | dilution | 2 |
| | butylbenzyl phthalate | 12,000 ug/kg | dilution | 4 |
| | bis(2-ethylhexyl) phthalate | 3,500 | initial | 3 |
| CY073 | N-nitrosodiphenylamine | not detected | initial | 2 |
| | di-n-butyl phthalate | 1,500 | initial | 1 |
| | butylbenzyl phthalate | 30,000 | dilution | 4 |
| | pyrene | not detected | initial | 2 |
| | bis(2-ethylhexyl) phthalate | 2,100 | initial | 1 |
| | pentachlorophenol | 73 | initial | 6 |
| CY075 | N-nitrosodiphenylamine | not detected | initial | 2 |
| | di-n-butyl phthalate | 210 | re-analysis | 1 |
| | bis(2-ethylhexyl) phthalate | 23,000 | initial | 5 |
| | butylbenzyl phthalate | 270 | re-analysis | 1 |

Decision Criteria

- Both results were questioned by blanks; the lowest value was reported and flagged (B).
- One result was questioned by blanks; the other result was not detected. The not-detected result was reported.
- One result was greater than 10 times but less than 20 times the highest blank value; the other result was questioned by the blanks. The higher result was reported and flagged as unreliable (R). Further information is necessary to verify the presence of this compound at this location.
- Both results were at least 20 times the highest blank result. The highest result was reported and is considered confident. (Other high levels of phthalates may corroborate the presence of this compound at this location for sample CY069.)

5. One result was greater than 20 times the highest blank, but the second result was in the same range as the blanks. The highest result was reported and flagged (J) due to disagreement between the two analyses. However, further information may be useful in verifying the presence of this compound at this location.
 6. The initial result was questioned by the blanks. This result was reported because the detection limit for the diluted re-analysis was too high to enable detection of this compound at the level seen in the undiluted analysis.
- Surrogate recoveries were low for two base-neutral extractable compounds for solid sample CY075. This indicates that detection limits for many undetected polyaromatic compounds may be higher than reported in this sample, and results for the PAHs that were detected may be biased low and have been flagged (L). In addition, surrogate recoveries for nitrobenzene and tribromophenol were slightly low, although contractually acceptable. Detection limits for some substituted aromatic compounds, as well as for highly substituted phenols, may be slightly higher than reported in this sample.
 - Slightly low surrogate recoveries for tribromophenol were also observed for solid samples CY069 and CY072. Detection limits for highly substituted phenols may be slightly higher than reported in these two samples.
 - The recoveries for d₅-phenol were low for all aqueous samples, including the laboratory blanks. The matrix spike/matrix spike duplicate recoveries for phenol and 4-nitrophenol were low for aqueous sample CY076 as well. This suggests a problem with the extraction of phenol and possibly other phenolic compounds from an aqueous matrix. The detection limits for phenol and 4-nitrophenol in particular may be higher than reported in all aqueous samples.
 - Even though unusual, the result for 1,3-dichlorobenzene is considered confident in sample CY069. The sample spectrum matches the reference spectrum well, and the compound eluted at the expected retention time. However, this compound was not detected in the field duplicate, sample CY073, possibly due to the very low instrument levels involved. (Also, the concentrations of most compounds were lower in CY073 than in CY069, which could also account for the absence of this compound in CY073.)

- There was generally good precision for the results between field duplicate samples CY069 and CY073. However, imprecision was seen for 1,3-dichlorobenzene, acenaphthene, pyrene, butylbenzyl phthalate, di-n-octyl phthalate, and indeno(1,2,3-cd)pyrene. In most cases, the compound was detected in only one sample. Results for these compounds have been flagged as estimated in samples CY069 through CY074, unless previously flagged (B).
- The result for benzo(a)pyrene is considered estimated in sample CY073. The initial, undiluted result was very low (only 0.34 ug/l), instrument level, whereas the diluted instrument level result was 2.7 ug/l. Sample inhomogeneity may be the cause of the observed difference.
- All results for dieldrin and 4,4'-DDT (except DDT in sample CY072) have been flagged as unreliable (R). These pesticides are represented by a single chromatographic peak, and the presence of interferences eluting within the expected retention time window of these compounds can cause false positive results. Without the presence of related breakdown or parent compounds, further information would be necessary to verify the presence of these compounds at these locations. The presence of relatively high levels of PAHs and phthalates in many samples may have contributed to these interferences.
- Detection limits may be higher than reported for DDT and dieldrin in all solid samples. The high levels of PAHs in sample CY070 may have enhanced the peaks representing these two matrix spike compounds, resulting in the high recoveries seen for this sample. Because similar levels of PAHs exist in all solid samples, detection limits may be affected in all solid samples.
- The results for Aroclor 1248 and DDT are considered confident in sample CY072. Both compounds were confirmed by gas chromatography/mass spectrometry (GC/MS), and the Aroclor displayed good peak pattern matching quality and area ratios with the reference standards on both chromatographic columns. Because of the presence of multi-peak PCBs in this sample, compounds related to DDT (i.e., DDD and DDE) could not be distinguished. The peaks representing the Aroclor may have masked the single peaks representing DDD and DDE.

- Detection limits for 2-butanone may be higher than reported in all samples. The continuing calibration response factors were less than 0.05. This is a common problem with this compound because EPA requires the use of a quantitation ion that is a minor component of the mass spectrum for this compound.
- Tentatively identified compounds that are not demonstrated artifacts or laboratory contaminants are summarized immediately following this report.
- Sample results that are below the calibration range of the analysis have been flagged as estimated (J) on the data summary, where no other flag exists.

7.2.1.3 Support Data

The Support Documentation appendix to this report documents the above findings associated with blank contamination, the flagging of one result as tentative, the manual calculation of one result by the reviewer, low semivolatile surrogate and matrix spike recoveries, and the low response factors for 2-butanone. (Issues pertaining to laboratory contractual compliance are found on a separate summary directed to the laboratory deputy project officer.)

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SAMPLE DATA SUMMARY: ORGANIC TENTATIVELY IDENTIFIED COMPOUNDS

| SAMPLE NUMBER | ANALYSIS FRACTION (VOA/BNA) | ESTIMATED CONCENTRATION | | QUALIFIER CODE | Saturated HC = saturated hydrocarbon PAH = polynuclear aromatic hydrocarbon ND = none detected X = number of compounds in category |
|---------------|-----------------------------|-------------------------|-------|----------------|---|
| | | VALUE | UNITS | | |
| CY069 | VOA | | | | NP |
| | BNA | 3100 | ug/kg | TOT | Carboxylic acids (5) |
| | | 270 | | TOT | aldehydes (2) |
| | | 420 | | | 9-H Carbazole C ₁₂ H ₉ N |
| | | 1200 | | ISO | C ₁₅ H ₁₂ PAH - 2-methylanthracene |
| CY070 | VOA | | | | ND |
| | BNA | 1200 | ug/kg | | 9-H Carbazole |
| | | 1600 | | ISO | C ₁₅ H ₁₂ PAH - such as 2-methylanthracene |
| | | 1700 | | | 9,10-anthracenedione C ₁₄ H ₈ O ₂ |
| CY071 | VOA | | | | NP |
| | BNA | 220 | ug/kg | ISO | C ₁₁ H ₁₀ PAH - such as 1-methylnaphthalene |
| | | 110 | | ISO | C ₁₂ H ₁₂ PAH - such as dimethylnaphthalene |
| | | 400 | | ISO | C ₁₅ H ₁₂ PAH - such as 4-methylphenanthrene |
| | | 170 | | ISO | C ₁₆ H ₁₂ PAH - such as 2-phenylnaphthalene |
| CY072 | VOA | | | | NP |
| | BNA | 1300 | ug/kg | | Trichlorobiphenyl |
| | | 550 | | | Tetrachlorobiphenyl |
| | | 550 | | | 4-4'-DDT |
| | | 990 | | ISO | C ₁₅ H ₁₂ PAH such as 2-methylanthracene |
| CY073 | VOA | | | | NP |
| | BNA | 200 | ug/kg | | Carboxylic acid |
| | | 390 | | | galactitol derivative |
| | | 230 | | ISO | C ₁₅ H ₁₂ PAH such as 2-methylanthracene |
| | | 450 | | | anthracenedione C ₁₄ H ₈ O ₂ |
| | | 530 | | | Satd HC |
| | | 2400 | | UNK | Unknown |
| CY074 | VOA | | | | NP |
| | BNA | 110 | ug/kg | | carboxylic acid |
| | | 170 | | | galactitol derivative |
| | | 790 | | | Carboxylic acid plus 2-methylanthracene |
| | | 310 | | | anthracenedione |
| | | 1700 | | | Satd HC |
| | | 7000 | | | not link Unsaturated HC of unknown substitution (2) |

DEFINITIONS OF QUALIFIER CODES:

SUS = SUSPECTED FALSE POSITIVE RESULT: Compound is either a common laboratory contaminant, or else a possible reaction byproduct (artifact) attributable to the chemical reagents used for sample preparation and analysis. This result is suspect even though this compound was not found in any associated blanks.

UNK = UNKNOWN COMPOUND: Library search result unreasonable or of very low matching quality.

TOT = TOTAL CONCENTRATION REPORTED: Represents the sum of several compounds detected all belonging to the same chemical class.

ISO = OR ISOMER: Compound identification is not selective for this isomer only. This result may instead represent the presence of a similar compound comprised of the same atoms bonded together in a different arrangement or substitution pattern.

SAMPLE DATA SUMMARY: ORGANIC TENTATIVELY IDENTIFIED COMPOUNDS

2

| SAMPLE NUMBER | ANALYSIS FRACTION (VOA/BNA) | ESTIMATED CONCENTRATION | | QUALIFIER CODE | COMPOUND NAME |
|---------------|-----------------------------|-------------------------|-------|----------------|--|
| | | VALUE | UNITS | | |
| C4075 | VOA | | | | NP |
| | BNA | 610 | ug/mg | ISO | C ₁₂ H ₁₂ PAH - such as dimethyl naphthalene |
| | | 2600 | | | galactitol derivative |
| | | 23000 | | | carboxylic acid |
| | | 500 | | ISO | C ₁₇ H ₁₂ PAH such as 4-methyl pyrene |
| | | 420 | | | benz (d,e) anthracen-7-one C ₁₇ H ₁₀ O |
| | | 450 | | UNK | POSS aromatic or PAH |
| | | 5800 | | TOT/UNK | unknowns (2) |
| | | 2100 | | UNK/TOT | unknown aromatic (2) |
| C4076 | VOA | | | | NP |
| | BNA | | | | NP |

DEFINITIONS OF QUALIFIER CODES:

- SUS = **SUSPECTED FALSE POSITIVE RESULT:** Compound is either a common laboratory contaminant, or else a possible reaction byproduct (artifact) attributable to the chemical reagents used for sample preparation and analysis. This result is suspect even though this compound was not found in any associated blanks.
- UNK = **UNKNOWN COMPOUND:** Library search result unreasonable or of very low matching quality.
- TOT = **TOTAL CONCENTRATION REPORTED:** Represents the sum of several compounds detected all belonging to the same chemical class.
- ISO = **OR ISOMER:** Compound identification is not selective for this isomer only. This result may instead represent the presence of a similar compound comprised of the same atoms bonded together in a different arrangement or substitution pattern.

7.2.2 Inorganic Data: Lab Case 11032

7.2.2.1 Summary

Seven solid and two aqueous samples were analyzed for total metals and cyanide through the EPA CLP. Included in the sample set were one duplicate pair and one field blank.

The data have been fully reviewed to determine the usability of results according to the National and Regional Guidelines. (Areas examined in detail are listed in the Support Documentation appendix.) Data quality was good for most metals and for cyanide. Detection limit capability was demonstrated for most elements by meeting criteria for holding times, spike recoveries, calibration check standards, low-level standards, and linear-range analyses. Low levels of several metals were detected in the laboratory and field blanks, and some qualitative problems affected some of the results.

Principal areas of concern include blank contamination, spectral interference of silver from iron, a few low matrix spikes, laboratory duplicate imprecision, one miscalculated result, and a few variant post-digestion spike recoveries.

7.2.2.2 Qualifiers

- Based upon careful examination of data from this case and other CLP cases that employ the same operating parameters (namely wavelength), it has been determined that spectral interferences from iron caused substantial signal suppression for silver, resulting in negative instrument readings for all solid samples. The interfering wavelengths were determined from literature references. The sample data, as well as the interference check standard, displayed levels of iron approximately 2,700 times the level of silver (on an absolute value basis). The correlation coefficient for the iron/silver data from this case was 0.991. The detection limits for silver may be higher than reported in all samples except MCY076 and MCY075, which contained low levels of iron (under 1,000 ug/l). This is corroborated by a zero percent matrix spike recovery for silver in sample MCY069.

- Several metals were detected in the laboratory blanks. However, only results for two metals were affected. The results for arsenic in samples MCY069 and MCY075, as well as all positive results for cobalt except MCY074, have been flagged as undetected due to blank contamination (B). The levels of these metals in the associated samples are not significantly higher than the levels in all associated blanks.
- The result for barium was miscalculated by the laboratory for sample MCY074. The reviewer has reported the correct result, 11,200 mg/kg, on the data summary.
- The reviewer has reported 5.8 mg/kg for arsenic in sample MCY068. This metal was detected in two furnace analyses but was not detected in the method of standard additions (MSA) analysis. The possibility exists that the wrong sample was analyzed by MSA and that the positive result has been reported as a worst-case approach. In addition, this result has been flagged as biased low (L), as a result of slightly low post-digestion spike recoveries for both furnace analyses.
- The matrix spike recovery was 49 percent for arsenic in aqueous sample MCY075, and the post-digestion spike recovery was 70 percent for this sample. Blank contamination may be the cause for the low recovery [the duplicate result, 5 U (not detected), yields a recovery of 63 percent]. Since this is the only surface water sample in the case, only this one result may be slightly higher than reported. However, the result has already been flagged (B). A similar situation exists for thallium; the matrix spike recovery in this sample was 57 percent, and the post-digestion spike recovery was 91 percent. Because these data suggest digestion loss, the detection limit for thallium may be higher than reported for sample MCY075.
- Low matrix and post-digestion spike recoveries were observed for antimony in solid sample MCY069. This suggests sample-specific matrix suppression upon analysis for this metal. The detection limit may be higher than reported for antimony in this sample.
- The matrix spike recovery for selenium in sample MCY069 was reported from MSA data, which do not always reveal the cause for the low recoveries (matrix suppression versus digestion losses). The initial data reveal slightly low matrix spike recoveries for this sample and the laboratory duplicate (62 percent and 52 percent, respectively) and good post-digestion spike recoveries. This indicates digestion losses, and, therefore, all solid selenium results may be higher than reported and have been flagged (L). Detection limits may be higher than reported in all solid samples where selenium was not detected.

- The matrix spike recovery for silver was slightly low at 59 percent in aqueous sample MCY075. The detection limit may be higher than reported in this sample.
- The matrix spike recovery for cyanide was slightly high in solid sample MCY069. All solid results can be further considered estimated and may be slightly lower than reported.
- Slightly low correlation coefficients were observed for selenium in samples MCY069 and MCY070, as well as for arsenic in sample MCY073. These results may be considered estimated and have been flagged (J), where no other flag exists.
- Laboratory duplicate imprecision was observed for iron in aqueous sample MCY075 and for selenium in solid sample MCY069. All solid results for selenium may be considered further estimated, and the iron result in sample MCY075 has been flagged as estimated (J).
- All lead results were reported from the plasma data, except for sample MCY076 (the blank). Sample MCY075 was also analyzed by furnace, and excellent agreement was seen between the furnace and plasma data for this sample.
- The laboratory did not perform a serial dilution for the aqueous matrix, which consisted of one sample. Therefore, no observations regarding possible matrix influences on the data can be made.
- No cyanide was observed in sample MCY068. However, 64.6 mg/kg of this analyte was detected in the field duplicate, sample MCY072. No field duplicate imprecision was observed for any other analytes, suggesting that the wrong sample may have been analyzed for either one of the cyanide analyses. Careful examination of all cyanide data provided did not confirm this possibility, however. The result in sample MCY072 has been flagged as estimated (J), as have all other solid results for cyanide. Further information would be useful in verifying the presence of cyanide at the particular location represented by MCY072.

- The recoveries for the solid laboratory control sample (LCS) were low for aluminum, selenium, and silver. The recovery for silver was below EPA limits. High iron values in the LCS may account for the low silver recovery, and digestion loss may account for the low selenium recovery. According to the July 1987 Revision of the Inorganic CLP Statement of Work (SOW), "If the results for the solid LCS fall outside the control limits established by EPA, the analyses must be terminated, the problem corrected, and the previous samples associated with that LCS re-digested and re-analyzed."¹ This was not done for silver for this case. The low recoveries for selenium and silver corroborate the low matrix spike recoveries discussed earlier in this report. Results for aluminum in all solid samples may be higher than reported and have been flagged (L).

7.2.2.3 Support Data

The Support Documentation appendix to this report documents the above findings associated with blank contamination, low spike recoveries, spectral interferences for silver, a miscalculated result, and laboratory duplicate imprecision. This report has been formatted to address those issues directly affecting the application of the data to the subject investigation. (Issues pertaining to laboratory contractual compliance are addressed on a separate form directed to the laboratory deputy project officer.)

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¹Revision of Inorganic Statement of Work. July 1987. Section E, page 12.

7.2.3 SAS 4320C - Hexavalent Chromium

Six solid samples were analyzed for hexavalent chromium by the Special Analytical Services (SAS) provision of the EPA CLP. Included in the sample set was one duplicate pair.

Analytical methodology was based upon method 3060 alkaline digestion for hexavalent chromium and method 7197 chelation/extraction flame atomic absorption for hexavalent chromium.

The data have been fully reviewed to determine the usability of results according to the National and Regional Guidelines. (Areas examined in detail are listed in the Support Documentation appendix.)

Data quality was good with respect to blank results, spike and duplicate performance, and instrument calibration. All recoveries and precision were well within quality control limits. No results were affected by any problems because there were no positive results and there were no problems observed for this analysis.

The Support Documentation appendix to this report includes blank, spike, duplicate, and calibration verification results.

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ORIGINAL
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SECTION 8

8.0 TOXICOLOGICAL EVALUATION

8.1 Summary

Notable levels of several metals and cyanide were observed in water and sediment taken from the flooded basement of the plating room. However, the levels of inorganic contaminants, combined with the minimal amount of exposure expected, seem to indicate that no significant impacts should be expected.

Polycyclic aromatic hydrocarbons (PAHs) and bis(2-ethylhexyl) phthalate were detected in basement sediment at levels not expected to pose a significant hazard.

Soil samples obtained from the alley and backyards near the plating room revealed notable levels of lead, cyanide, barium, nickel, antimony, and cadmium. While lead levels were not necessarily atypical for urban environments, it is generally considered desirable to minimize all lead exposure. At the measured levels of other inorganic contaminants, no significant impacts are expected.

In one backyard soil sample, polychlorinated biphenyls (PCBs) were detected. Including tentatively identified PCBs, an EPA clean-up guideline for residential areas was slightly exceeded. Accidental ingestion of 100 mg of this soil would not be expected to result in significant impacts. Dermal absorption from soil is usually negligible, as PCBs are strongly soil bound.

In alley and/or backyard soil samples, 4,4'-DDT, PAHs, phthalates, and volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) were detected. The reported soil levels of these contaminants are not expected to result in significant health effects.

8.2 Support Documentation

8.2.1 Inorganic Contamination

The basement of the plating room was reported to be flooded with approximately four feet of water from backed-up wastewater and some storm water that could wash in through a hole in the wall. Some metal levels [chromium (113 ug/l), copper (46.6 ug/l), lead (1,290 ug/l), mercury (0.2 ug/l), nickel (1,810 ug/l), and zinc (328 ug/l)] were detected in excess of Ambient Water Quality Criteria (AWQCs), which are criteria used to judge typical surface waters.¹ This water, however, is not typical surface water and is not expected to support aquatic life. Access to the room is restricted, except for a hole in the wall. Sediment samples were taken from the basement; this sediment was compared with typical nonpolluted eastern United States soils for the sake of perspective.² This sediment is not, however, a true soil but appears to consist of debris, washed-in dirt, and dirt that has settled out from the water. Antimony (76.4 mg/kg), barium (11,200 mg/kg), cadmium (13.4 mg/kg), chromium (2,900 mg/kg), copper (1,880 mg/kg), cyanide (10.6 mg/kg), lead (8,070 mg/kg), mercury (4.7 mg/kg), nickel (1,680 mg/kg), and zinc (14,500 mg/kg) were detected at levels above typical nonpolluted soil levels.² While occasional trespassing may provide occasional exposure opportunities, no significant adverse effects are expected.² Metals tend to adsorb onto particulates and would not be well absorbed in this situation.³ Metal toxicity is usually observed from high-level industrial exposure to dusts or fumes, which is not the situation at this site.⁴

Duplicate composite surface soil samples taken from alleys near the plating room revealed elevated levels of lead (up to 1,090 mg/kg), cyanide (64.6 mg/kg), barium (up to 2,520 mg/kg), nickel (up to 1,090 mg/kg), antimony (21.6 mg/kg), and cadmium (up to 5 mg/kg). Soil samples taken from backyards bordering the southern alley revealed elevated levels of lead (up to 1,660 mg/kg), cyanide (up to 9.1 mg/kg), cadmium (up to 5.1 mg/kg), and nickel (1,360 mg/kg).

Lead was also detected in background soil at 502 mg/kg. The majority of lead compounds found in the urban environment result from leaded gas combustion.⁵ These types of lead are more heavily concentrated around roadways and garages; upper layers of roadside soil (within 25 meters of the road) may have as much as 2,000 ppm in excess of natural lead levels.⁵ On-site soil levels are not necessarily atypical for urban soils. However, because the site history involves the use of metals, the source of lead cannot be definitely determined. Lead has been seen to affect the hematopoietic, gastrointestinal, renal, and nervous systems.⁴ Accidental ingestion of lead-contaminated soil is usually a greater problem for children than adults; children are more sensitive to lead because of their developing nervous systems and greater lead absorption.⁶ Lead, however, binds strongly to soil, decreasing its availability. Inadvertent ingestion of 100 mg of the most contaminated backyard soil would result in a lead intake of 166 ug. Dietary daily lead intake has been reported to be 119 to 274 ug per day for adults and 40 to 210 ug per day for children.⁷ A single exposure of 100 mg of the most contaminated soil would not be expected to produce significant health effects in and of itself. However, blood-lead increases of about 2 ug/dl per 1,000 mg/kg soil lead have been predicted after chronic lead exposure.⁸ This would represent a blood-lead increase of only about 3.3 ug/dl above baseline. As previously mentioned, urban residents may have an already high lead baseline. It is generally considered desirable to minimize all lead exposure, as people are exposed by a variety of sources, especially in the urban environment.

Cyanide has been reported to be nontoxic to humans at ingested levels up to 10 mg per day (5 mg per day for long-term consumption) because it is detoxified in the body.⁹ It is not considered to be an important environmental problem because of its low persistence and its metabolic biotransformation in the body.¹⁰ Accidental ingestion of 100 mg of the most contaminated soil would result in a cyanide intake well below the health-based risk reference dose (RfD).¹¹

Nickel, reported to be a possible site-related contaminant (see section 4.0), has been seen to cause dermatitis in sensitive individuals; toxicity has been observed after high-level industrial inhalation exposure.⁴ Nickel is also an essential element. Accidental ingestion of 100 mg of the most contaminated soil would not only result in a nickel intake (136 ug) below the RfD, but also below the adult daily dietary intake of 300 to 600 ug per day.^{6,11} Background soil nickel was detected at 717 mg/kg.

Cadmium, barium, and antimony have produced toxicity at high levels in industrial settings.^{4,6} Like most metals, they are slowly absorbed and are not generally available when adsorbed onto soil particles. At on-site levels, no significant impacts are expected. The background cadmium level was reported to be 13.5 mg/kg, higher than any on-site soil samples.

8.2.2 Organic Contamination

No significant organic contaminants were detected in the water sample obtained from the basement.

PAHs were confidently and tentatively identified up to 33,830 ug/kg in basement sediment. PAHs are often found in the environment, occurring in coal and tar and forming from the incomplete combustion of organic material.⁶ At higher levels than those observed at this site, PAHs can cause dermatitis in sensitive individuals.⁴ PAHs adsorb strongly onto soil particulates, reducing their availability. As previously discussed, contact, if any, with this sediment is expected to be minimal. This water is not expected to support aquatic life.

DEHP was detected in basement sediment at 23,000 ug/kg. Phthalates, as plasticizers, are ubiquitous in the environment.⁶ It is interesting to note that the sediment sample was reported to contain garbage and debris. Phthalates are noted for their low acute toxicity and low chronic toxicity.⁶ DEHP is classified as a suspect human carcinogen, but the limited exposure potential to basement sediment makes a cancer risk impractical to quantitate.¹² No significant impacts are expected.

In the alley soil samples, PAHs were confidently and tentatively identified at levels up to 15,839 ug/kg. Phthalates, not including DEHP, were detected up to 30,000 ug/kg. 1,3-Dichlorobenzene (74 ug/kg) was also detected in these samples.

In soil taken from the backyards, PAHs were confidently and tentatively identified (up to 29,702 ug/kg), PCBs were confidently and tentatively identified (up to 10,650 ug/kg), and 4,4'-DDT was confidently and tentatively identified (up to 2,450 ug/kg).

As previously mentioned, PAHs are practically ubiquitous in the environment.⁶ Background soil PAHs were detected up to 9,550 ug/kg. No significant non-carcinogenic effects are expected at on-site levels. Some PAHs have been classified as suspect human carcinogens: benz(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, and dibenz(a,h)anthracene.¹² Theoretical increase in cancer risk cannot be quantitated because PAH cancer potencies are being re-evaluated by EPA; due to the no-threshold theory of carcinogenicity, some increase in cancer risk cannot be ruled out.

The total level of PCBs slightly exceeded an EPA clean-up guideline of 10,000 ug/kg for residential or unlimited-access areas.¹³ These persistent, lipophilic compounds have been associated with chloracne and liver damage at high levels.⁴ They are suspect human carcinogens.¹² Generally, toxicity has been associated with large-scale industrial inhalation exposure or accidental ingestion of large amounts of PCBs.^{13,14} In contrast, exposure to PCBs at this site is likely to occur via dermal contact with or accidental ingestion of small quantities of soil or inhalation of dust or volatilizing PCBs. Dermal contact with PCBs is usually considered to be a relatively insignificant exposure route, especially from soil, except when oil is present to act as a vehicle.¹³ The samples at this site were described as sandy or loam soil, from which it would be difficult to dermally absorb PCBs. Accidental ingestion of 100 mg of this soil would result in an intake of about 1.1 ug of PCBs. An estimated average daily dietary intake of 8 to 15 ug of PCBs per day has been reported.¹⁴ Toxicity to humans from PCBs in contaminated oil was reported at an average intake of 72.4 ug per day.¹⁵ Therefore, accidental acute oral ingestion of this soil would not appear to be significant in and of itself. Volatilization of PCBs is limited by soil adsorption. Therefore, potential inhalation exposure is not expected to even approach industrial exposure levels.

An oral cancer potency of 7.7 (mg/kg/day)⁻¹ has been developed, based on Aroclor 1260.¹¹ Theoretical cancer risks have been calculated, based on spills covering certain measured surface areas of land and some involving inhalation exposure. Because of the nature of the PCBs (Aroclor 1248 and tentatively identified PCBs, not Aroclor 1260) and the apparent localization of contamination (one sample), it is doubtful that any useful quantitation of cancer risk could be achieved for this site. According to the no-threshold theory of carcinogenicity, however, some theoretical increase in cancer risk cannot be ruled out.

DDT, a chlorinated hydrocarbon insecticide banned in the United States since 1973, was detected in one backyard soil sample. DDT has been seen to affect the hepatic, cardiovascular, and reproductive systems, and especially the nervous system. A dose of 20 grams has been reported to be highly dangerous but not fatal to man.¹⁶ An oral human TDLo (lowest reported toxic dose) of 5 mg/kg has been reported.¹⁶ The soil levels are far lower than reported toxic levels. It has been said that practically everyone born since the mid-1940s has had a lifetime exposure and storage of some DDT in their fatty tissues.⁶ DDT is very lipophilic and is quite persistent in the environment. Potential DDT exposure from this soil does not appear to be significantly greater than exposure from most other sources, as DDT contamination is so widespread.

Phthalates, as plasticizers, are ubiquitous in the environment.⁶ Phthalates are noted for their low acute toxicity and low chronic toxicity.⁶ No significant impacts are expected.

1,3-Dichlorobenzene is a SVOC present at a level for which there is no evidence to suggest significant environmental impacts. It does not appear to be very persistent in the environment.

N-nitrosodiphenylamine, a moderately toxic irritant, is present at a level for which there is no evidence to suggest significant impacts.¹⁶

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